CURRENT NEWS

July 4, 1914

Big Meadows Dam in California in Service

Officials of Great Western Power Company Visit Site and Express Themselves as Well Pleased with the Work

After the completion of the new hydraulic-fill dam at Big Meadows, Cal., the site was visited recently by a party of Great Western Power Company officials, including Mortimer Fleishhacker, president; Guy C. Earl, vice-president; E. W. Beardsley, superintendent, and J. M. Howard, chief engineer. In referring to the inspection Mr. Fleishhacker said that the reservoir now covers an area of about 30 sq. mi., being 10 mi. long and about 8 mi. in width at the widest point. The party traversed the lake in a tug, and it was noted that in the tributary watershed only a small portion of the snow had melted, although the 250,000 acre-feet of water in the lake were collected in May and an overflow of several thousand second-feet has continued since. There was no doubt, Mr. Fleishhacker said, that there would be an ample water supply for the ultimate storage capacity which the company plans to provide by adding 15 ft. to the height of the dam and thereby flooding an additional 12 sq. mi.

One of the most gratifying features of the work, Mr. Fleishhacker stated, was that the 80-ft. dam "did not leak a drop" and that the lake level has not fluctuated at all since the dam closure was made, but has steadily risen in such a way as to entirely dissipate any fears there may have been as to the porosity of the reservoir. The spillway in the dam is made large enough to pass 50,000 sec.-ft., or five times the amount of the maximum flood on record. Within 12 mi. below the reservoir there is a total drop in the stream bed of more than 2000 ft., but at the present time the dam is only used to store water that can be turned into the stream during periods of low flow for maintaining the supply at the Big Bend plant near Oroville, where the company now has an installation for developing 50,000 kw.

Japan Inaugurates Good-Roads Movement

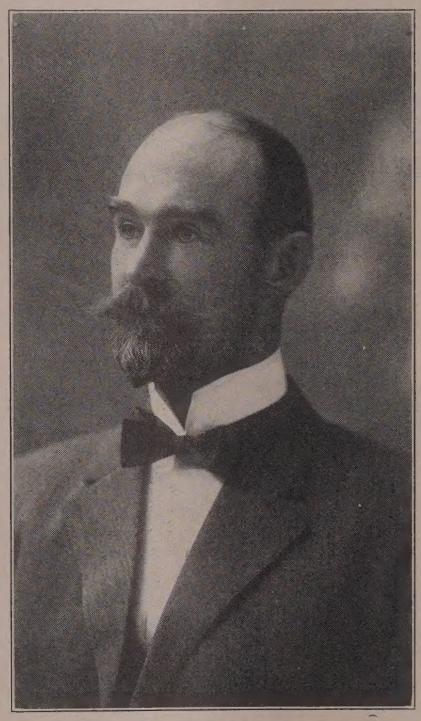
A commission appointed by the Imperial Japanese Government to inspect the system of municipal administrations in London and Berlin, with special reference to road building and street paving, arrived in San Francisco from Tokio on June 23. It is composed of A. Akaike, secretary for the bureau of home affairs, and T. Arai and H. Sameda, under secretaries in the same bureau. The itinerary takes the commission to Montreal via Vancouver and Winnipeg, and after a month's tour of the larger cities of eastern Canada and the United States three months are to be spent in England and on the Continent.

Funds Ready for Dredging at Richmond, Cal.

On June 26 there was held in San Francisco a conference between Col. Thomas M. Rees, U. S. A., and the City Council of Richmond, Cal., at which plans were perfected for turning over to the U. S. Government the first $100,000 from the city of Richmond for the work of dredging in Richmond's inner harbor. To this sum will be added a like amount already appropriated by the Federal Government, and more money is to be available from both sources as the work proceeds. The project is to be carried out under Federal supervision, Colonel Rees being in charge.

Col. Merritt Smith Heads New York Water Department

Col. Merritt Haviland Smith, deputy chief engineer of the Board of Water Supply of the City of New York, has been appointed chief engineer of the New York Department of Water Supply, Gas and Electricity, succeeding I. M. De Varona, who resigned on July 1, after having been in the city service for over 30 years. Colonel Smith was born in New York City in 1862 and obtained his degree in civil engineering at the Pennsylvania Military College in 1880. His first work was with the Pittsburgh & Western Railroad. In 1884 he



Col. Merritt H. Smith

joined the engineering staff of the Department of Public Works, New York City, and assumed charge of a party making surveys for the new Croton aqueduct and superintending construction of auxiliary gate-houses and waste weirs for the old Croton aqueduct. Colonel Smith went to Florida in 1890 to make surveys for land development. On his return to New York in 1892 he became assistant engineer in the Department of Finance, where he served until 1898. He then secured a leave of absence and obtained a commission as captain, and later as major, First U. S. Vol. Engineers, in charge, in Porto Rico, of building temporary bridges and repairing masonry bridges. In April, 1906, he joined the staff of the Board of Water Supply which was then beginning work on the Catskill aqueduct. He assumed charge of the southern aqueduct department in which is located the great Kensico storage reservoir and 30 miles of aqueduct. On the Catskill work his services were so highly thought of that when the position of deputy chief engineer of the board was made vacant by the death of C. L. Harrison, Colonel Smith was appointed to this important post, which placed him second in command to J. Waldo Smith. In his new position as chief engineer of the Department of Water Supply (which is an entirely separate organization from the Board of Water Supply) Colonel Smith will have charge of the distribution of the supply from the existing Croton waterworks. The new chief engineer is lieutenant-colonel of Squadron A, N. G. N. Y.

Mulholland to Revalue Gas and Electric Properties

Chief Engineer of Los Angeles Aqueduct Reported to Have Consented to Inventory Los Angeles Plant for the City

Chief Engineer William Mulholland, of the Los Angeles Aqueduct, has consented, according to press reports, to superintend a revaluation and inventory of the Los Angeles Gas & Electric Corporation on behalf of the municipality. Mr. Mulholland accepted the new commission only when members of the City Council urged him to do so, it is reported, and his consent is contingent upon being provided with such assistance as he deems necessary. Robert MacKay, superintendent of mechanical construction for the water department, was selected by Mr. Mulholland to assist in the work.

It is believed that a revaluation of the properties in question, particularly the mains and pipe lines, will furnish valuable material in the fight to sustain the rates adopted by the City Council. No definite estimate as to the time required for the revaluation has been made, although when previously discussed sixty days was set as the minimum time limit. The city attorney reports that the suits can be postponed until the inventories are finished.

Suit to Review the Award of the Wisconsin Commission

The City of Oshkosh, Wis., having recently voted to purchase the property of the Oshkosh Water Works Company, the Railroad Commission of Wisconsin made an appraisal of the property and found "the cost of reproduction of the physical property, excluding material and supplies and non-operating property, but including all paving over mains, is $569,510, the corresponding present value, $510,953," concluding that "it is the judgment of the commission that $525,000 represents fair compensation to the owners of the company," excluding the items mentioned above as not appraised. The Oshkosh Water Works Company not being satisfied with the award and feeling a larger allowance should have been made for going value has begun suit in the circuit court of Dane County, seeking a review of the value of its property. The case was heard in Madison by Judge Stevens on June 15 and 18. Interesting testimony as to the actual time and money required for building up a water works company to a paying basis was given by W. G. Maxcy and T. W. Gray, practical builders, owners and operators of waterworks in Wisconsin. Henry Floy, of New York, expert for the company, who had examined the property and made studies of its going value, based on the different deficit methods used by the Railroad Commission of Wisconsin and the comparative plant method, testified to a value of at least $75,000, as against the commission's allowance of about $14,000. Commissioners Roemer and Erickson were both on the witness stand, but were not permitted to testify as to how they made up for the allowance for going value. The attorneys for the company were C. B. Bird, Carl Jackson and John M. Olin. The commission's interests were looked after by a representative from the office of the attorney-general of the State. At the conclusion of the testimony it was stipulated by both sides that in case it was found the commission had erred in its allowance for going value the court should fix the amount, rather than refer the matter back to the commission. Arguments by the attorneys will be made at Madison, July 13.

San Francisco High-Pressure System under Test

The completion of the Hobart Building, San Francisco's tallest office structure, recently afforded an opportunity for trying out the new high-pressure fire-protection system. This building is 314 ft. high and stands on Market Street near Montgomery, in the center of the business district. It is equipped with a 6-in. standpipe into which water is admitted through six 3½-in. inlets. From this standpipe there is a 3-in. outlet on each of the 22 stories and seven outlets of the same diameter on the roof.

On the occasion of the recent test the three main reservoirs of San Francisco were drawn upon successively and the pressures measured. At the base of the standpipe the pressure from the Jones Street reservoir registered 150 lb., the Ashbury Heights reservoir gave a 200-lb. pressure, and when connection was made with the Twin Peaks reservoir the gage showed 335 lb. The latter gave 160 lb. on the roof for a single 1¼-in. nozzle and 60 lb. when two 1¼-in. and two 1½-in. nozzles were operating. The Twin Peaks connection at the Hobart Building was thought to give the equivalent of four steam fire engines working with a 120-lb. pressure.

Japanese Engineers Study American Railway Construction Methods

Kenechi Nakamura, chief civil engineer of maintenance of the Japanese Imperial Railways, has come to the United States at the expense of the Japanese Government to study American methods of railroad construction, and is working on the staff of Paul Didier, principal assistant engineer of the Baltimore & Ohio Railroad, who has charge of the construction of a double-track bridge now being built across the Monongahela River at Glenwood, Pittsburgh. A short time ago another Japanese official made a study of the Magnolia cutoff being made by the same railroad.

Uniform Steam Boiler Law

No formal action was taken on the subject of a standard steam boiler law at the recent St. Paul meeting of the American Society of Mechanical Engineers. The committee is considering opinions expressed by engineers to whom it had sent copies of the report, and on Sept. 15 a public hearing will be held at the society's rooms in New York City to get the views of all interested. No definite action may be expected, therefore, until after that date.

Twin Peaks Tunnel Specifications Issued

Plans and specifications for the construction of a double-track tunnel and appurtenances under Twin Peaks in San Francisco, Cal., were ready for bidders last week. Owing to the amount of data included and the considerable cost of printing, it is planned to make some charge for copies of the volume, which contains 47 plates and 86 pages of printed matter.

The tunnel is to accommodate traffic between the downtown section of the city and a newly opened residence district. It is to be 12,000 ft. long, and will have eleven stations between portals. Test borings have been made along the line to be followed, and the tunnel sections have been designed according to the material to be traversed. The standard inside width of the tunnel in soft material will be 25 ft. with an arch thickness of 22 in. A false ceiling consisting of a 4-in. slab of reinforced concrete will be suspended by 1-in. galvanized iron bars placed on 10-ft. centers. These rods will be embedded in the crown of the arch and will run through the longitudinal beam along the center of the ceiling slab. The space between ceiling and arch will have a central height of 5 ft.

One of the features of the tunnel will be the Laguna Honda station, about 3000 ft. from the western portal. At this station soft material was encountered at the point where a 44-ft. arch span was desired only 60 ft. below the surface. The arch was designed with a crown thickness of 3 ft. This station is to have platforms 300 ft. long and 10 ft. 6 in. wide and is to be equipped with six elevators.

Two ventilating shafts equipped with electrically driven blowers are specified. One of these, 13 ft. in diameter, is located 4500 ft. from the western portal, while a 10-ft. shaft is to be built 1600 ft. from the eastern portal.

Outlet Gate in Turlock Irrigation District Breaks

The south outlet gate of Davis reservoir in the Turlock irrigation district, California, gave way June 27. One hundred feet of the main canal was washed out and a serious loss of stored water was threatened. The Turlock district comprises 175,000 acres. The Davis reservoir was completed last year for emergency use and was being filled for the first time. The south outlet conduit of concrete had been giving some trouble and the water pressure was being reduced to permit of a thorough examination of the structure and foundations when the leak occurred.

Eugenia Falls Hydroelectric Development

Construction is about to begin on the Eugenia Falls hydroelectric development of the Hydroelectric Power Commission of Ontario. The development is located on the Beaver River in the counties of Simcoe, Grey and Bruce, about 40 miles from Owen Sound, Ont. The plant will be built to take care of the peak load on the transmission system of the hydroelectric commission and also to distribute power directly to Owen Sound and surrounding points. Power capacity available for the minimum year of precipitation on record is 3200 hp-hr. The commercial capacity, however, will be from 6000 to 8000 hp, according to load factor. The available gross head is 550 ft. and the minimum operating head 510 ft. To increase the output of the station there will be a storage reservoir of 14,000 acre-feet capacity, sufficient to regulate the runoff from the watershed, which is 76 sq. mi. The dam, which will be 1955 ft. long, with a 105-ft. spillway, will have earthfill abutments, with puddle cores, aggregating 700 ft. The crest of the spillway is 45 ft. above the foundation, while the dam crest is 5 ft. higher. Originally an earthen dam with a solid concrete spillway was contemplated, but after some months of study an Ambursen dam was determined upon and the contract awarded to the Ambursen Company. The plant will have a short diversion canal, with an intake gate structure of concrete and a 46-in. wood-stave pipe line 3300 ft. long. At the head of the penstock, which is 50 in. in diameter and 1500 ft. long, there will be a differential surge tank 100 ft. high. The two generating units will have 2180 hp, single runner, Francis turbines running at 900 r.p.m.

The plant is designed and its construction will be supervised by the hydraulic department of the Hydroelectric Power Commission of Ontario under the direction of F. A. Gaby, chief engineer. H. G. Acres is the hydraulic engineer.

Harbor Development in Sight for Troy, N. Y.

The Mayor of Troy, N. Y., has recently appointed a river and harbor commission, which has, in turn, selected H. G. Hammett, chairman, and William Hutton, Jr., secretary. The commission contemplates the development of a harbor, the construction of warehouses, concrete bulkheads, and slips and piers in the river to care for the increased traffic which the State barge canal system will undoubtedly develop. It is expected that a consulting engineer and a traffic manager will be appointed to act with the commission.

Pacific Port Authorities Hold Convention

For the first time in the history of the Pacific Coast port authorities of all the principal cities from Vancouver to San Diego held a convention in Seattle June 22 and 23 to discuss methods to increase revenues, better harbor developments, new methods of construction and kindred subjects.

The meeting was called by the president of the Seattle port commission, Major Chittenden, and was attended by representatives, in most cases the harbor engineers, from Vancouver, Victoria, New Westminster, Astoria, Bellingham, Tacoma, San Francisco, Los Angeles and San Diego. The second annual meeting will probably be held in San Francisco, though this has not been decided upon.

Automatic Sprinkler System to Guard Patent Office

With a view to giving every protection possible to the valuable records stored in the Patent Office in wooden file cases, with only narrow aisles between, a contract has been signed by the Interior Department officials for the construction of an automatic water-sprinkling system at points where the danger from fire would be greatest. For some years efforts have been made to have Congress appropriate for a building for the Patent Office, where the records could be given good protection from fire. However, that body has ignored the request, although officials of the office pointed out that the destruction of the Patent Office records would mean the beginning of endless litigation, because the only proofs of patent cases are contained in these files.

Urges $100,000 Appropriation to Investigate the Mosquito

A bill has been introduced in Congress by J. Hampton Moore of Pennsylvania, providing for an appropriation of $100,000 to the U. S. Public Health Service, for investigation of the propagation and spread of the disease-carrying mosquito, as related to the health of man, and for the eradication thereof by direct action of the government or through co-operation with State and municipal health authorities.

Plan for Terminal Railway at Los Angeles Harbor

Work is actively under way on the Los Angeles Harbor Municipal Railway, 4000 ft. of track having been installed to serve the municipal dock leased to the American-Hawaiian Steamship Company. Bids were opened on May 23 for a 20-ton locomotive and 3000 ft. of rails, and it is planned to start work at once on the construction tracks to be used in excavating Timms Point and conveying the spoil for filling in behind the west side of municipal dock 1. There are on hand about 15,000 ft. of 75-lb. rails and 8000 ties, and these will be supplemented by other material already ordered. The arrangement of the municipal tracks at the port fits in with a project now under consideration for a municipal railroad between the harbor district and the city proper.

Neighborhood-Center Competition

Competitive plans for an ideal neighborhood center will be received by the City Club of Chicago preliminarily on Nov. 9 and finally on Jan. 25, 1915. The object is to bring before the public, in graphic form, the practical possibilities of enhancing neighborhood life in cities by better grouped buildings and grounds for neighborhood activities. Cash awards to the extent of $600 will be divided equally among the authors of the first eight sets of drawings.

Electric Operation on New Haven Extended

On June 22 regular service with a schedule of sixteen passenger trains a day was established over the recently completed electrified section of the main line of the New York, New Haven & Hartford Railroad between Stamford and New Haven, Conn. The electrified line between the Grand Central Terminal, New York, and the Union Station, New Haven, via Stamford, is 73 miles long.

San Francisco to Have $2,000,000 U. S. Drydock

Victory for San Francisco in its three-year campaign for the location of the United States Navy's big $2,000,000 drydock at Hunter's Point came to that city June 16, when the House, by a vote of 137 to 93, concurred in the Senate amendment to the conference report on the naval appropriation bill, providing that the Union Iron Works construct for the use of the Navy, at San Francisco, a dock capable of handling the largest battle-ships that can pass through the Panama canal, at a rental of not less than $50,000 annually for six years.

Stop Use of Private Reduction Plant at Dayton

Delivery of the city of Dayton garbage to the Dayton Reduction Company in the East End was suspended June 17, and all necessary legislation was enacted by the city commission for the disposal of the garbage by burial in the vicinity of Johnson Station, north of the Miami River, where there exists an old abandoned gravel pit.

The condition of the Dayton Reduction Company's plant and the immediate need of repairs is the cause of the action. City Manager Waite is quoted as saying that recommendations for the permanent handling of Dayton's East End garbage situation would be made at once.

Rumford Medal Goes to Producer of Tungsten Lamp

It is announced at the Massachusetts Institute of Technology that the Rumford medal of the American Academy of Arts and Sciences has been awarded to William David Coolidge, '96, assistant director of the Research Laboratory of the General Electric Company at Schenectady. The award was made for his invention of ductile tungsten and its application in the production of radiation.

Reorganization of Waterworks Company

The American Water Works & Electric Company, which was organized under the laws of the State of Virginia and has taken over the assets of the American Water Works & Guarantee Company from the reorganization committee, in accordance with the terms of the plan of reorganization, has elected the following board of directors: William Nelson Cromwell, J. B. Finley, H. C. Huffer, Jr., Samuel Insull, H. J. de Lanoy Meijer, James D. Mortimer, Charles H. Payson, Henry H. Pierce, Henry R. Platt, H. Hobart Porter, Theodore Revillon, W. B. Schiller, Charles R. Scott, Andrew V. Stout, Guy E. Tripp, Robert Wetherell and Albert H. Wiggin.

E. C. Converse, chairman of the reorganization committee, and Charles R. Brooker, president of the American Brass Company, have consented to act as an advisory committee of the stockholders. The voting trustees are: William Nelson Cromwell, E. C. Converse, A. S. Squire, A. H. Wiggin and Howland Davis.

To Hold Conference of Legal Division of Reclamation Service

In order to secure the fullest measure of cooperation and to have a better mutual understanding among those who are engaged upon legal work relating to the Reclamation Service, Secretary Lane is arranging for a conference to be held at Salt Lake City, Utah, July 14 to 21, 1914, of the members of the legal division of the Reclamation Service. Invitations have been extended to members of the Department of Justice and to the United States Attorneys for the districts in which the reclamation projects are situated who have to a greater or less extent handled litigation in which the Reclamation Service is concerned, and who have been requested to prepare papers and to participate freely in the discussion. Judge Will R. King, chief counsel of the Reclamation Service, will preside. A large number of papers on work connected with reclamation from the legal viewpoint will be presented.

Drexel Institute to Have Four-Year Engineering Course

The Court of Common Pleas of Philadelphia has granted the Drexel Institute of Art, Science and Industry the right to confer the degree of bachelor of science in engineering on students completing its four-year course in engineering. Applicants for the course leading to this degree will be admitted in the fall of 1914.

Princeton Meeting of the Society for the Promotion of Engineering Education

The twenty-second annual meeting of the Society for the Promotion of Engineering Education was held at Princeton, N. J., from June 23 to 26. The proceedings covered a wide range of subjects, but the central idea brought out was that emphasis should be laid upon fundamental principles, and that education is not so much a matter of administration as of purpose and spirit. The meeting was notable for the attendance of official representatives of a large number of educational institutions. Institutional membership is a new feature of the society organization inaugurated during the past year. Its purpose is to make the findings of the society more immediately applicable to the educational life of the country. The institutional delegates were very enthusiastic in regard to the possibilities of this new feature of the society activity.

The following elections were made on the last day of the convention: President, Anson Marston, dean of the division of engineering, Iowa State College, Ames; vice-presidents, Henry H. Norris, "Electric Railway Journal," New York, and C. Russ Richards, acting dean of the College of Engineering, University of Illinois, Urbana; secretary, F. L. Bishop, dean of the school of engineering, University of Pittsburgh, Pittsburgh; treasurer, William O. Wiley, secretary, John Wiley & Sons, New York. Members of the council: R. H. Fernald, professor of dynamical engineering, University of Pennsylvania, Philadelphia; A. H. Fuller, dean of the college of engineering, University of Washington, Seattle; A. M. Greene, Jr., professor of mechanical engineering, Rensselaer Polytechnic Institute, Troy, N. Y.; E. V. Huntington, assistant professor of mathematics, Harvard University, Cambridge, Mass.; Vladimir Karapetoff, professor of electrical engineering, Cornell University, Ithaca, N. Y.; D. C. Miller, professor of physics, Case School of Applied Science, Cleveland, Ohio, and W. M. Riggs, president of the Clemson Agricultural and Mechanical College of South Carolina, Clemson College, S. C.

The reports of the various officers showed that the society is in a flourishing condition, the individual membership now being nearly 1400 and the institutional membership about 50. The council recommended that the 1915 meeting be held in the Middle West.

New Construction Activities

The total contracts booked by the rail mills during the first half of this year have been approximately 937,000 tons, which is 28 per cent larger than during the first half of 1913. The metal market was slightly firmer the past week. An unusually large number of important water and sewer development projects, for which bids were asked or contract awarded, were recorded the past week. The highway field still maintains a heavy, steady program.

Highways and Paving

Bids are desired by the Pennsylvania highway commission for constructing 15 mi. of State highway. Contracts were awarded amounting to $165,000 by the Maine highway commission. Bids were opened by the New York State highway commission for $1,183,000 worth of new highway work. Bids were also awarded by the same commission for about $190,000 worth of repair work. About 21 mi. of concrete highways in the vicinity of Chicago will be constructed by the Cook County highway commissioners. Contract for about 90 mi. of road near Belton, Tex., was awarded at $255,347. About $150,000 worth of paving work was awarded the past week by the city of Seattle, Wash. Bids were opened at Peru, Ind., for $78,000 worth of paving work. About 185 mi. of road construction work in the vicinity of Waco, Tex., will be started shortly. Bids are desired at Okolona, Miss., for constructing 13 mi. of graveled road. Billings, Mont., has voted $70,000 for improving First Avenue. The citizens of South Bend, Ind., have voted $190,000 to construct a 16-mi. road. Bids were opened at Lonoke, Ark., for constructing 11 mi. of macadam highway. Sealed proposals for building 27 mi. of Maryland State highway have been called for. Montreal, Que., has voted to spend $200,000 for paving Lawrence Street.

Water and Sewers

Bids are desired at Denver, Col., for $8,000,000 worth of bonds for constructing a municipal waterworks. Contract was awarded at Youngstown, Ohio, at $107,500 for pump installation. Laurel, Md., is having plans made for $65,000 worth of water improvements. Toronto, Ont., will spend $300,000 on sewer reconstruction. Plans are reported completed at Sacramento, Cal., for a $125,000 pumping station. Portland, Ore., contemplates $260,000 worth of sewer work. Bids were opened at Chicago for the construction of the Wilson Avenue tunnel; the bids ranged around $1,240,000. Bids were also opened at Chicago for constructing North Shore intercepting sewers; the lowest bid came to $248,376. Pocatello, Idaho, is to spend $64,000 for a sewer system. The citizens of Lyons, N. Y., have voted $135,000 for a sewer system. Larned, Kan., will shortly spend $90,000 for waterworks improvements. Bids are desired at Vancouver, B. C., for constructing $300,000 worth of lateral sewers. Bids were opened at Newark, N. J., by the Passaic Valley Sewerage Commission for Section 9; the lowest bid came to $86,592. Contract was awarded at West Haven, Conn., for 35 mi. of 8 to 24-in. vitrified pipe sewers at $182,754. Southington, Conn., will spend $100,000 for constructing sanitary sewers.

Bridges

Contract for erecting a $43,000 railroad bridge at Lewiston, Me., was awarded recently.

The county commissioners at Everett, Wash., contemplate building four bridges at $165,000. Contract will be let at Vancouver, B. C., shortly for a $2,000,000 bridge over Second Narrows. Perth Amboy, N. J., is to have a $50,000 concrete bridge over Covery Place. Plans have been completed for a $225,000 viaduct for Walnut Street, St. Louis. Columbus, Ohio, is to spend $35,000 for a viaduct at Indianola Avenue.

Hydraulic and Kindred Developments

Bide were opened at Chicago for work on the Calumet-Sag Channel, the minimum bid being $546,370. Surveys are being made for a $500,000 drainage project at Eugene, Ore. Authorization has been made at Stockton, Cal., for a $140,000 assessment to complete the South San Joaquin irrigation district. Contract was reported awarded at Augusta, Ga., for building a $65,000 levee. Bids are desired for $170,000 worth of drainage work at Aitkin, Minn.

Miscellaneous

A $1,000,000 power company has been formed at Manila, P. I. It is reported that the Mobile & Ohio Railroad plans erecting $600,000 worth of repair shops at Claymore. A $500,000 hotel is to be erected at St. Paul, Minn. Seattle, Wash., is to have two new $450,000 office buildings. Contract for the foundations of a $500,000 grain elevator at Seattle was awarded. Bids are desired at Prince Rupert, B. C., for erecting a $300,000 postoffice. Citizens of Hardin County, Tenn., have voted $240,000 worth of bonds to assist in building the proposed Nashville to Corinth railroad. It is proposed to spend $1,159,000 for police station building improvements in Chicago. The Terminal Railroad Association of St. Louis has been authorized to issue $1,000,000 worth of bonds for terminal improvements. It is proposed to erect a $1,000,000 club house at Hershey, Pa.

News of Engineering Societies

The Swedish Engineers' Society of Chicago made an inspection trip to the Fisk Street station of the Commonwealth Edison Company on June 27.

The Engineers' Society of Pennsylvania has planned in addition to its regular meetings a series of lectures which will be given Sept. 11, Oct. 16, Nov. 13 and Dec. 11.

Personal Notes

H. A. Loser, designing engineer in the filtration division of the water department of the city of Baltimore, has tendered his resignation.

I. M. De Varona, for 32 years in the service of the city of New York, has resigned as chief engineer of the Department of Water Supply, Gas and Electricity.

Henry Gerharz, president of the Gerharz-Jaqueth Engineering Company, has been appointed by President Wilson to the position of surveyor-general of Montana. The Senate confirmed the appointment on June 24.

George W. Osgood, resident engineer in charge of the construction of the Chicago, Milwaukee & St. Paul Railroad branch line from Maytown to Willapa Harbor, Wash., has tendered his resignation to accept a position in Seattle.

R. H. Ober, consulting engineer, of Seattle, Wash., has moved his offices from 4471 Winslow Place to 1011-12 Alaska Building. Mr. Ober has been engaged in engineering work in the Pacific Northwest for the past twenty-one years.

George Weston, engineer of the Board of Supervising Engineers, Chicago Traction, and also the city's representative, has been removed so far as the latter position is concerned. The City Council concurred in the action of Mayor Harrison on June 29.

R. F. Kelker, Jr., chief draftsman in the central district of the division of valuation, Interstate Commerce Commission, has been appointed traction expert in Chicago by Montague Ferry, commissioner of public service. He succeeds M. C. Buckley, a non-technical man.

David C. McConaughy, assistant engineer, has been transferred to the Salt River project, U. S. Reclamation Service. Other changes in personnel of the service are resignations of Charles A. Bissell, assistant engineer, El Paso, Tex., and Thomas H. Matson, assistant engineer, Las Cruces, N. Mex.

John H. Gregory, of Hering & Gregory, consulting engineers, New York, and C. E. Gregory, chief engineer of sewers, Borough of Manhattan, New York, will sail for Europe on July 4, where they will spend the summer studying European methods of sewage and refuse disposal and some of the most recent methods of water purification.

Augustus Griffin, superintendent of irrigation, Truckee-Carson project, Fallon, Nev., U. S. Reclamation Service, has resigned to become chief engineer and manager of the South San Joaquin irrigation district, Manteca, Cal. Mr. Griffin will continue as consulting engineer for the Waterford irrigation district, California. The South San Joaquin irrigation district includes about 70,000 acres near Stockton, and the Waterford district 20,000 acres near Modesto. Mr. Griffin was chief engineer and superintendent of the Modesto irrigation district from 1906 to 1912.

Frederic H. Fay, engineer in charge of the bridge and ferry division of the Boston Public Works Department, has tendered his resignation. He will leave the service of the city to become head of the new firm of Fay, Spofford & Thorndike, of Boston, which will make a specialty of bridge and other steel and concrete structural engineering. Mr. Fay has been in the service of the city of Boston since 1895, having been graduated from the Massachusetts Institute of Technology in 1893. C. M. Spofford, of the firm, was also graduated from the Institute in the same class, and is now professor of civil engineering, having succeeded Prof. G. F. Swain when the latter joined the staff of Harvard University. Professor Spofford will devote only part of his time to the firm's work. The third member, Sturgis Thorndike, was graduated from the Institute in 1895.

L. H. Shoemaker, formerly engineer in charge of the estimating office of the American Bridge Company, has been appointed division engineer of that company, Pittsburgh division, to succeed Richard Khuen, Jr., transferred to the erecting department. Mr. Shoemaker was graduated from the University of Michigan in 1889. Immediately after graduation he went to the Toledo, St. Louis & Kansas City Railroad as instrumentman. From January to July, 1890, he was assistant engineer at Peoria, Ill. From July to December, 1890, he was assistant city engineer of Findlay, Ohio. In 1891 and 1892 he was assistant engineer, on surveys and masonry, with the Findlay, Fort Wayne & Western Railroad. From 1893 to 1901 he was with the Passaic Rolling Mill Company of Paterson, N. J. In 1901 he went to the American Bridge Company as estimating engineer. In 1902 Mr. Shoemaker was placed as engineer in charge of the estimating office of the same company.

Julius M. Bischoff, for the past three years in charge of constructing extensions for the Cuban Central Railways, Ltd., of Sagua la Grande, Cuba, has returned to St. Louis, Mo., on account of the closing down of construction work. Mr. Bischoff entered the employ of the Cuban Central Railways in the early part of 1911, in the capacity of assistant engineer in charge of the San Juan de los Yeras to Matagua extension. On June 1, 1912, Mr. Bischoff was appointed chief construction engineer in charge of all construction work. During Mr. Bischoff's incumbency as chief construction engineer he had charge of six extensions in Santa Clara Province which were being simultaneously constructed. He was also acting chief engineer in charge of an extensive program of betterments, including stone ballasting and relaying, besides the regular maintenance-of-way duties. Previously to going to Cuba he was assistant engineer for the Terminal Railroad Association of St. Louis, being in charge of the reconstruction of the east approach of the Merchants Bridge and the Union Depot approach of the Eads Bridge at St. Louis. Mr. Bischoff also had been engaged in railroad construction in Florida on the Apalachicola Northern Railroad and was on maintenance-of-way work in Texas in the employ of the St. Louis and Southwestern Railway.

Obituary Notes

S. J. Harris, surveyor of Mariposa County, Cal., was killed in a railway accident June 26 at Merced, Cal.

H. J. Hilbert, civil engineer and city treasurer of Milwaukee, Wis., died June 9 in that city. From 1878 to 1881 Mr. Hilbert was city engineer of Milwaukee. Mr. Hilbert was at one time assistant chief engineer of the Chicago, Burlington & Quincy Railroad, chief engineer of the Winona & St. Peter Railroad and chief engineer of the Milwaukee Northern Railroad, which later became a part of the Milwaukee road. He studied engineering in Europe.

Civil-Service Examinations

United States.—An examination will be held July 22 and 23 at the usual places to secure eligibles for the position of mechanical draftsman Panama Canal service, at a salary of $125 to $150 per month.

New York State.—An examination will be held in various cities throughout the State July 25 for office assistant in the preparation of highway specifications and estimates at a salary of $901 to $1,200 per annum. The examination will deal with matters relating to duties of position, experience and training. Candidates must apply to the Civil Service Commission at Albany before July 17 for 1914 application blanks.

Examinations Previously Announced

Date		See Eng. Record
June 29	Senior highway engr. and highway engr., U. S...	May 30
June 29-30	Assistant engineer on specifications, Philadelphia	May 30
July 1	Architectural draftsman, Philadelphia	May 30
July 3-10	Draftsman, Philadelphia.	May 30
July 3	Asst. draftsman, Philadelphia	May 30
July 8	Asst. physicist and landscape architect, U. S..	June 6
July 8-9	Structural engineer and draftsman, U. S.....	May 30
July 13	Metallurgical engineer, U. S.	June 20
July 22	Transitman, U. S. Forestry Service	June 20

Coming Meetings of National Engineering Societies

AMERICAN SOCIETY OF CIVIL ENGINEERS. Secretary, Charles Warren Hunt, 220 West 57th St., New York. Meets first and third Wednesday, except in July and August.

AMERICAN SOCIETY OF ENGINEERING CONTRACTORS. Secretary, J. R. Wemlinger, 11 Broadway, New York. Meets second Thursday in New York, except in July and August.

AMERICAN WATER WORKS ASSOCIATION. Secretary, J. M. Diven, 47 State St., Troy, N. Y.

AMERICAN SOCIETY FOR TESTING MATERIALS. Secretary, Prof. Edgar Marburg, University of Pennsylvania, Philadelphia.

SOCIETY FOR PROMOTION OF ENGINEERING EDUCATION. Secretary, Dean F. L. Bishop, Engineering Dept., University of Pittsburgh, Pittsburgh.

CANADIAN SOCIETY OF CIVIL ENGINEERS. Secretary, Clement H. McLeod. Meets Thursdays, in Montreal, except during the months of May to September, inclusive.

Sand Companies Form Merger

Five sand and gravel companies are consolidating their selling agencies and forming a new corporation in Chicago to be known as the Standard Sand & Gravel Company. The five companies and the presidents of each are: Lake Shore Sand Company, C. H. Stebbins; Richardson Sand Company, Frank M. Richardson; American Sand & Gravel Company, N. C. Fisher; McLaughlin Building Material Company, John J. McLaughlin; Atwood-Davis Company, Charles H. Brand.

Recent labor troubles, which caused a depression in this line of business, and an effort to save sales office expenses are given as the reasons for the new organization. Officers of the various companies assert that they have not decided upon the amount for which the firm would be incorporated. It is understood the figure will be between $4,000,000 and $5,000,000.

To Organize National Foreign Trade Council

The National Foreign Trade Council, consisting of thirty men of national prominence representative of the industrial, commercial, transportation and financial interests, will be organized shortly in accordance with the mandate of the National Foreign Trade Convention held at Washington on May 27 and 28. It began a systematic and aggressive campaign for extension of American foreign trade. W. C. Redfield, Secretary of Commerce, said to the five hundred delegates representing one hundred commercial and industrial organizations: "If there is one thing European manufacturers dread as regards the future of their own business it is that America shall awake to her privilege and her power in foreign trade."

New Company Markets Three Types of Concrete Mixer

A new line of concrete mixers has been put on the market by the Power & Mining Machinery Company, of Cudahy, Wis. The trade name is the International concrete mixer and it is being built in three styles: The globe type embracing machines of the side-loading construction or with super-batch hoppers; the low feed type, a general low priced, low charging mixer for miscellaneous work, like foundations, sidewalks, curbs and gutters; and a street paving machine equipped with traction drive and either a distributing boom or a spout. The globe type is built in ten sizes ranging from 4 to 100 cu. ft. capacity per batch. They are mounted on steel trucks and are equipped with any power desired by the purchaser.

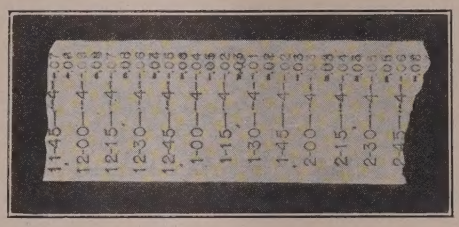
The mixing drum is made of two semi-steel castings bolted together, forming a globe construction. In this design all angles and corners where concrete can possibly collect have been eliminated. In the globe construction an extra mixing motion is made, and with a new design of mixing blades and arrangement of discharging buckets, it is claimed that the mixer will turn out a batch of uniformly mixed concrete in less time than is required by any other machine.

The improvements on the low feed and street paving types embrace the following: Self-oiling tracker wheels, self-oiling design in hoisting drum and a steel tracker band around the drum. In this last improvement is found the most modern addition to concrete mixers, and it is said to eliminate any chance of flat bands due to usage. The low feed machine has a low charging platform, which is folded up when the machine is not in use. The globe machine is designed and built especially for the smaller class of contracting work, and it is built in sizes of 4, 9 and 12 cu. ft. per batch and equipped with any power desired by the purchaser.

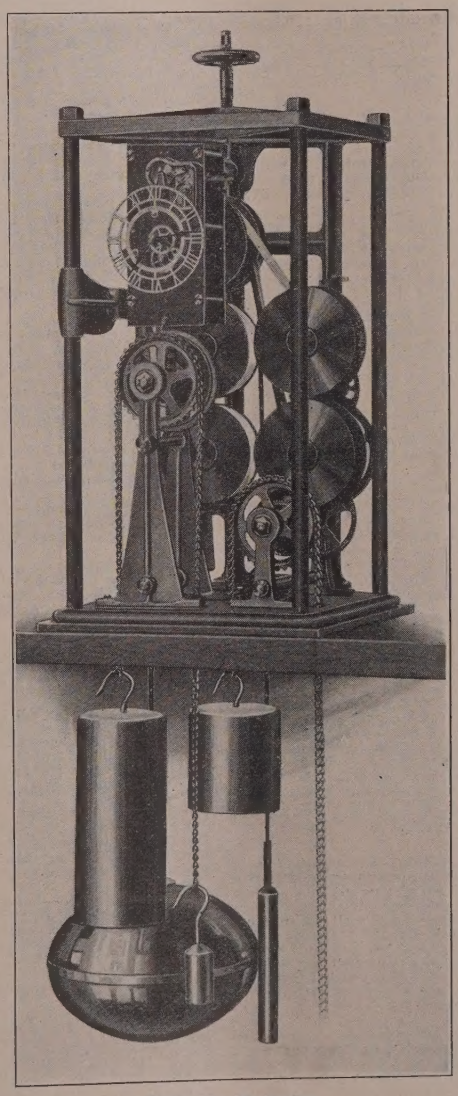
The street paver is constructed to turn out a maximum output with minimum labor; it can be operated by one man. The machine is equipped with either distributing boom and bottom dump bucket or sectional distributing spout. The machine is mounted on a steel frame with very large faced wheels, giving it ample bearing surface in soft grounds. The traction drive is both forward and reverse, with a two speed forward motion, 1 mile an hour to be used when working, and 4 miles an hour when moving machine from job to job.

Water-Stage Register Making Printed Record

An automatic water-stage register which prints its record has recently been put on the market by W. & L. E. Gurley, of Troy, N. Y. The difficulty of reading with precision the records made by a graphic register, the tendency of the paper to be affected by moisture or other causes and the limited time during which the record can be taken led to the introduction of this new type of register. At intervals of 15 or 30 min. are printed the height of water in feet and hundredths of a foot for a period of time, depending on the range of fall allowed the driving weights, which move at the rate of 1½ in. for a period of 24 hr.



Record of Water Stage



Registering Mechanism

By reference to the illustration a clear idea can be gained of the mechanical construction of the register. An iron base 14 in. square, at either corner of which is an iron rod 21 in. long supporting an iron top, forms a frame for the register. On the base are also erected the standards which support the recording mechanism, the spools for holding the paper and carbon ribbon and the driving mechanism.

The recording mechanism consists of three parallel type wheels, on the faces of which are raised figures and divisions indicating respectively the period of time from one to twelve hours at intervals of 15 min., the number of feet from 0 to 36, and the hundredths of a foot. The type wheel indicating time is controlled by a weight-driven clock. The two type wheels indicating heights of water are moved by a sprocket wheel connected to the float and counterweight by a perforated metal band.

A weighted hammer pivoted on the base of the instrument and with cushioned face opposite the center of the type wheels is controlled in its action by a sawtoothed cam moved by the clock in such a manner that at intervals of 15 or 30 min. the hammer is released and strikes a blow on the type wheels, thus making on the tape covering them an imprint of the indicated time and height of water. A strip of paper 2 ft. long and 1¼ in. wide is all that is required for the ninety-six impressions made in 24 hr. Moisture has no effect on the record, which is printed directly on the paper, thus requiring no computation in order to obtain the record from the paper slip.

The range is from 0 to 36.99 ft., and if on rare occasions the water should rise above this height no trouble will be experienced in reading the stage of the water, because 37-ft. fluctuations of the water surface are not momentary.

Business Notes

The O'Rourke Engineering Company, of New York City, has moved its offices to the Whitehall Building, 17 Battery Place.

The Joseph Dixon Crucible Company, of Jersey City, N. J., has appointed Dudley A. Johnson manager of its Chicago office.

Edward Holden, of New York City, for a number of years with Evans, Almirall & Company, of New York City, is no longer connected with that firm.

The American Hoist & Derrick Company, of St. Paul, Minn., has moved its Seattle office from 613 Western Avenue to 1512 L. C. Smith Building. F. R. Schoen will have charge of the Seattle office.

The Peebles Paving Brick Company, which has two plants at Portsmouth, Ohio, has purchased a plant at Firebrick, Ky., and will manufacture the Dunn brand of wire-cut-lug brick.

Joseph H. Wallace & Company, industrial engineers, of New York and London, have opened an office at 909 New Birks Building, Montreal, which will be in charge of two of the members of the firm, Joseph Perry and T. R. H. Murphy.

The Mack Manufacturing Company, of New Cumberland, W. Va., has moved its Philadelphia offices from 1115 Fidelity Building to 1008 and 1009A Lincoln Building, directly opposite the City Hall. R. T. Hutchins, with a corps of assistants, will be in charge of the offices.

J. C. West, formerly district manager of the Sullivan Machinery Company at its San Francisco office, will in the future be situated at the general offices of the company at Chicago, in the capacity of sales engineer, and not as general sales manager, as stated last week in this column.

Contracting News

Of Special Interest to Engineers, Contractors, Builders and Manufacturers of Engineering and Building Supplies

WATERWORKS.

Items Arranged Geographically

Pownal, Me.—Bids desired until July 30 at office Dr. Carl J. Hedin, Supt. Maine School for Feeble Minded, West Pownal, for constructing concrete reservoir. Arthur B. Fels, Engr., 60 Union St., Portland.

Fall River, Mass. — Watuppa Water Comn. reported as having plans revised by Prof. Barrows of Mass. Institute of Technology, for construction of conduits along west shore of North Watuppa Pond. Commission has authority to expend $200,000 for this purpose.

★Contract awarded, June 20, by Watuppa Water Board to Wilson-Snyder Centrifugal Pump Co., Pittsburgh, Pa., for an 8,000,000-gal. centrifugal pumping unit for North Pond pumping station, at $4,550. H. W. Clarke, City Aud.

Webster, Mass.—Town, June 29, voted appropriation of $75,000 for concrete reservoir of 1,600,000 gal. capacity. Michael Schofield, Supt. Water Dept.

Boston, Mass. — Metropolitan Water Comn. planning erection of a 75,000-gal. stand pipe on Bellereau Hill, West Roxbury.

Lowell, Mass.—Comr. Carmichael, of Water Depart., and F. A. Barbour, Tremont Bldg., Boston, Consulting Engr., have recommended erection of a purification plant to cost $250,000.

New York, N. Y.—Bids desired until July 13 by Commission Water Supply, Gas and Electricity for hauling and laying water mains and appurtenances in McKinley Sq., Tremont Ave., Barretto and several other streets, Boro. Bronx. Security $8,000; also furnishing material and installing dock hydrants. Security $1,500.

Brooklyn, N. Y.—Bids desired until July 8 by Commissioner Water Supply, Gas and Electricity, New York, for cleaning water mains and setting additional valves. Security $6,500.

Bids desired until July 13 by Commissioner of Water Supply, Gas and Electricity, New York, for hauling and laying water mains and appurtenances in Sterling Pl., Douglas, Grafton and several other streets. Security, $6,000.

Bedford Hills, N. Y.—See "Sewerage and Sewage Disposal."

Albany, N. Y.—City Council passed ordinance authorizing $200,000 bond issue for extension of water mains.

Albany, N. Y.—Bids desired until July 6 by Bd. Contract and Supply for alterations and additions to pumping station, Montgomery and Quackenbush Sts. Alex. Selkirk, Archt., 133 N. Pearl St.

Harrison, N. J.—Bids desired until July 7 by Water Com. of Common Council for furnishing f. o. b. Harrison, 4500 lin. ft. 16 in. c. i. water pipe, special castings, valves, hydrants, etc.; also excavating and laying 16 in. c. i. water pipe, etc., including hauling. Borrie & Kreiner, Engrs., Kinney Bldg. Newark.

★**Spring City, Pa.**—Contract awarded June 17, for compressors, air lifts, pipe lines, etc., for water works for eastern Pennsylvania State Institute to H. T. Edwards, Builders' Exchange, Philadelphia.

Richland, Pa.—Bids desired by Borough Council until July 13 for c.-i. water pipe, valves, etc., advertised in Engineering Record. F. H. Shaw, Consulting Engr., Lancaster.

★**Baltimore, Md.**—Bids opened June 17 for Contract No. 23, constructing superstructures of buildings at Lake Montebelle for Water Dept.: Consolidated Eng. Co., Inc., Baltimore, $201,599 (awarded contract); Chas. L. Stockhausen, Baltimore, $223,643; Henry Smith & Sons Co., Baltimore, $226,580; David M. Andrew Co., Baltimore, $227,090; Morrow Bros., Baltimore, $225,113. Engineer's estimate, $218,492.

The bid in detail of Consolidated Eng. Co., Inc., successful bidder, is as follows:

Head house (lump sum)	$35,400.00
Wash water bldg. (lump sum)	17,900.00
Filter bldg. (lump sum)	76,950.00
Pumping station (lump sum)	16,500.00
Aerator gate house (lump sum)	6,700.00
Center passage (lump sum)	9,890.00
Gate house No. 1, filtered water reservoir (lump sum)	1,550.00
Gate house No. 2, filtered water reservoir (lump sum)	1,800.00
Electrical equipment (lump sum)	10,500.00
Plumbing (lump sum)	2,600.00
Tile floors (lump sum)	$25.00
Laboratory finish (lump sum)	1,350.00
Alberene tables and benches (lump sum)	1,475.00
Refrigerating plant (lump sum)	2,350.00
Freight elevator (lump sum)	2,250.00
Bucket elevator (lump sum)	2,300.00
Trolley system (lump sum)	3,000.00
Ventilating system (lump sum)	1,000.00
Vacuum cleaners (lump sum)	2,000.00
Lime tanks, troughs and screens (lump sum)	2,550.00
3000 lin. ft. iron pipe railing	.52
740 sq. yds. concrete walks	1.35
Concrete steps (lump sum)	150.00
Total	$201,599.00

Greensboro, Md.—Bids desired until July 9 by Temple Smith, Secy. Community of Greensboro, for constructing water system. Hugh T. Downing, Engr., Dover, Del.

Laurel, Md.—See "Sewerage and Sewage Disposal."

Winston-Salem, N. C.—Citizens June 23 voted $50,000 bonds for water works improvements.

Scotland Neck, N. C.—J. B. McCrary Co., Atlanta, Ga., reported to be figuring on construction of water works, sewer system, street improvements and drainage.

Winston-Salem, N. C.—See "Public Buildings and Schools."

Manchester, Ga.—City Council reported considering construction of water works and sewer system.

Social Circle, Ga.—Plans reported completed by J. B. McCrary Co., Atlanta, for water works and a sewer system.

Lagrange, Ga.—Bids desired by J. D. Edmundson, Mayor, until July 21 for water works station, filters, machinery and extensions, advertised in Engineering Record. Jas. Nisbet Hazlehurst, of Atlanta, Ga., is Consulting Engr.

Daytona Beach, Fla.—Bids desired until July 11 by Mayor and Council for constructing waterworks, requiring approximately 14,895 ft. 4, 6, 8 and 10-in. c. i. pipe; 9675 ft. 1½ and 2-in. galvanized pipe; 2 25 or 40-hp. oil engines, direct-connected to 2 500-gal. per min., double-acting triplex pumps; a 50,000-gal steel tank on 85-ft. tower with riser pipe, etc.; 23 double fire hydrants; 20 1½-in. to 10-in. gate valves and boxes. The J. B. McCrary Co., Engrs., Third Natl. Bank Bldg., Atlanta, Ga.

Phenix City, Ala.—Dudley Chipley, Garrard Bldg., Columbus, Ga., reported to have been engaged to prepare plans for water works.

Cullman, Ala.—Citzens voted $30,000 bonds to improve water works, change from well supply to creek supply, construct concrete dam, pumping station filter plant and 100,000-gal. tank and tower. Engineer, John R. Baylis, Farley Bldg., Birmingham.

Cleveland, O.—Bids desired by Comr. Purchase and Supplies, Room 513, City Hall, July 23, for a concrete coagulant house and wash water reservoir, advertised in Engineering Record.

Dayton, O. — Specifications reported completed by Engineer Pollard, of Cincinnati, for pumping station on Tates Hill.

Clyde, O.—Bids desired until July 21 by Clerk Bd. Trus., Pub. Affairs, for improving water works by repairing deep water well, steam pumps, sinking and constructing other new wells, purchasing new deep water well pumps and equipment.

Coshocton, O.—City Council reported considering construction of reservoir.

★**Youngstown, O.**—Contract awarded for installing pumps at pumping station on West Ave., to Heller Bros. Co., Youngstown, at $107,500. H. C. Fox, Secy. Bd. Pub. Service.

Frankfort, O.—Bids desired until July 21 by Clerk Bd. Trus., Pub. Affairs, for constructing water works system. W. J. Sherman Co., Engrs., Nasby Bldg., Toledo.

Columbus, O.—Bids desired until July 16 by Bd. Pub. Service for installing in West Side Pumping Station, W. Spring St., a Gaskle compound horizontal condensing pumping engine, capacity 10,000,000 gals. per day; also 2 Holly horizontal compound condensing engines, capacity 12,000,000 gals. each per day of 24 hrs., against head of 200 ft. with 80 lbs. steam.

Tell City, Ind.—Bids desired until July 14 by City Clerk for furnishing new power plant equipment, consisting of one 300-kw turbine and condenser with auxiliary equipment for same. as well as motor-driven centrifugal pumps for handling city water supply, together with all necessary switchboard and switchboard equipment. Robt. M. Cass, Consulting Engr., 318 American Central Life Bldg., Indianapolis.

Highland Park, Mich.—Bids desired until July 13 by Village Clerk for constructing a supply main 30-in. c.-i. pipe, from Lake St. Clair to Highland Park, advertised in Engineering Record.

Troy, Ill.—City considering construction of water works. F. H. Garnet, City Clk.

La Rose, Ill.—Village proposes to install water works system and would like to receive propositions and approximate cost of same from reliable contractors. Address W. E. Berg, Chmn. Com.

★**Moline, Ill.**—Contracts awarded to Moline Htg. & Contr. Co., Moline, for constructing 4600 lin. ft. 8-in. sewer; cost $2,416, and 3078 ft. 8-in. watermain, 11,190 ft. 6-in. and 1300 ft. 4-in.; cost $15,101. Lyle Payton, City Engr.

★**Elliott, Ia.**—Contract awarded June 15 for constructing water works to Des Moines Bridge & Iron Co., Des Moines, at $3,228. E. D. Hully, Town Clk.

Rockwell City, Ia.—Town Council considering question of issuing $30,000 bonds for water and sewer extensions.

Boyden, Ia.—Citizens reported to have voted to issue bonds for constructing water works.

Fergus Falls, Minn.—Bids desired until July 6 by State Bd. Control, St. Paul, for constructing a 600,000 gal. reinforced concrete reservoir at State Asylum, Fergus Falls. C. H. Johnston, Archt., 715 Capital Bank Bldg., St. Paul.

Larned, Kan.—Citizens voted $90,000 bonds for water works extension and constructing electric light plant. L. D. Burgess, City Clk. Engineers, Worley & Black, Kansas City, Mo.

Douglass, Kan.—This city will petition Kansas Utilities Board for a permit to issue $15,000 for a distribution system. N. E. Wilson, Mayor; Albert C. Moore, Engr., Bartlett Bldg., Joplin Mo.

★**Brunswick, Neb.**—Contract reported awarded to W. L. Bruce for constructing municipal water works at $10,055.

★**Veblen, S. D.**—Contract awarded June 9 for constructing water works, from plans of Dakota Eng. Co., Mitchell, to Tanner Bros., St. Paul, Minn.

★**Lewistown, Mont.**—Contract awarded to A. M. Holter Co., Helena, for material for new gravity water line from city to Big Spring, to replace the old wooden mains, at $62,977; to include 12 16-in. gate valves, 2 12-in. double gate valves, 30,300 lin. ft. 16-in. steel pipe. A. C. Birkland, City Engr.

★**Great Falls, Mont.**—Contract awarded June 22 by City Council, to American Cast Iron Pipe & Fdy. Co., Minneapolis, Minn., at $35 per ton, f.o.b. Great Falls, for all c.-i. water pipe, about 300 tons, and special castings, about 20,000 lbs., for the fiscal year beginning July 1, 1914.

Harlowtown, Mont.—City Council about to call election to vote on issuing $15,000 bonds for constructing water works.

Clyde Park, Mont.—C. H. Green & Co., Spokane, Wash., reported making surveys for municipal water works.

Eureka Springs, Ark.—Contracts will probably be let in 30 days for filter plant, water and sewer extensions. Engineer, Albert C. Moore, Bartlett Bldg., Joplin, Mo.

Arkansas City, Ark.—Bids desired until July 21 by City Clerk, for improving water works, to include remodel. and extend. pumping station, reset boilers and instal all interior piping; furnish and erect 2,000,000-gal. Meyer gear pumping engines, a 250,000-gal. tower and tank, 100 ft. high, furnish and lay approximately 12 miles water mains, etc. Burns & McDonnell, Engrs., Scarritt Bldg., Kansas City, Mo.

Benton, Ark.—An ordinance creating an improvement district was passed by City Council, providing for issue of bonds, to install a waterworks and sewer system.

Harrison, Ark.—Bids desired by City Secretary until July 22 for $40,000 water and $50,000 sewer bonds. Engineers, M. A. Earl & Co., Muskogee, Okla.

Nixon, Tex.—City Council granted franchise to A. W. Norton & Son to construct waterworks.

★**Waco, Tex.** — Contract reported awarded by City Water Comn. to C. G. Hamill, for an artesian well to be drilled at 1st St. pumping station; cost, $9,000.

Ennis, Tex.—City Secretary writes it is proposed to spend $35,000 in water works improvements, including 8-in. pipe and stand pipe.

Marble Falls, Tex. — See "Power Plants."

Big Springs, Tex.—It is proposed to spend about $25,000 for water works improvements. Theo. Jones, Supt. Water Works.

Grandfield, Okla.—Town Clerk writes it it proposed to construct 5 miles of c. i. mains, new pump, and make other repairs; cost $15,000.

Denver, Colo.—Bids desired until July 20 by Public Utilities Comn., for $8,000,000 bonds for constructing municipal water works.

Seattle, Wash.—Lowest bid opened June 26 by Bd. Pub. Wks. for constructing water main tunnel under Lake Washington Canal at 7th Ave., N. E., submitted by Meacham & Babcock. They submitted 2 bids. Both bids were for a tunnel at upper level, or about 70 ft. below surface of canal. The bid for a concrete lined tunnel is $183,511, and for brick lining $193,449.

★**El Monte, Cal.**—Contract awarded June 18 to Pacific Pipe & Tank Co., Los Angeles, for steel tank and tower at $4,900. J. W. Everett, City Clk.

★**Santa Barbara, Cal.**—Contract awarded by City Water Dept., June 22, to Arthur S. Bent Constr. Co., Los Angeles, at $40,560, for constructing concrete foundation for Gibraltar dam, on Santa Ynez River. Other bids: Mesmer & Rice, Los Angeles, $42,257; P. H. Ehlers, Los Angeles, $44,015; Kling Co. & J. C. Beer, Los Angeles, $43,643; S. M. Kerns, Long Beach, $39,360; Putnam Stone Co., Pasadena, $51,708; Russel-Greene & Foell Co., Los Angeles, $45,852. E. Pyzel, Engr. in Charge.

Riverbank, Cal.—B. W. Hobart, Mgr. Riverbank Water Co. writes it is proposed to install a 50,000 gal. steel tank, hemispherical bottom, 50 ft. above ground.

Glendale, Ariz.—Citizens voted $50,000 bonds for the purchase and extension of the city water works.

Salt Lake City, Utah.—The Secretary of War has approved city's application for a reservoir site on the Fort Douglas military reservation on 5th S. St., near 15th E. St. Bids for construction will soon be called for. Sylvester Q. Cannon, City Engr.

Bingham Canyon, Utah.—Bids desired by Town Clerk until July 22 for c.-i. pipe, advertised in Engineering Record.

Bancroft, Idaho—Bids desired until July 10 by Village Trus. for system of water works, including laying 2 miles of metal pipe, constructing reinforced concrete reservoir of 140 cu. yds. T. H. Humphreys, Engr., Logan, Utah.

Orillia, Ont.—Bids desired until July 13 by Secretary Orillia Water & Light Co. for waterworks extensions to include laying water mains, intake pipe, constructing reinforced concrete coagulating tank and pump house foundation, brick pump house, furnishing steel water pipe, gate valves, etc.

Bids desired until July 27, same time and place as above, for furnishing and erecting motor driven turbine pumps and equipment, Diesel oil engine and appurtenances and mechanical pressure type filtration plant.

Toronto, Ont.—See "Sewerage and Sewage Disposal."

Guayaquil, Ecuador.—Bids desired by J. G. White & Co., 9 Cloak Lane, London, E. C., England, on behalf of the Government of Ecuador until July 20 for about 4000 tons c. i. piping, with specials and fittings, for the first section of sanitation works of city, advertised in Engineering Record.

SEWERAGE AND SEWAGE DISPOSAL.

Items Arranged Geographically

Haverhill, Mass.—It is proposed to build sewers in Kenoya Ave. to protect watershed at Kenoya Lake; cost, $20,000.

Warren, R. I.—Question of installing sewer system reported under consideration; probable cost, $50,000.

Bridgeport, Conn.—Bids desired until July 14 by Paving and Sewer Comn. for constructing sewers in sundry streets, about 4000 ft. 24 to 42-in., and 6000 ft. 10 to 20-in., advertised in Engineering Record. Alfred H. Terry, City Engr.

★**Southington, Conn.**—Contract awarded by Sewer Comrs. to Bernardino & Tomassetti Constr. Co., Meriden, at about $110,000 for constructing sanitary sewers and sewage disposal works from plans of City Wastes Disposal Co., 156 5th Ave., New York. Bids for this work were opened June 8.

★**Middletown, Conn.**—Contracts reported awarded by Sewer Com. June 22 for constructing west side sewer as follows: Contract B to Brazos & Sons Inc., at $20,196. and Contract C to F. Arrigoni & Bro., $7061.

★*Items marked thus give the names of parties awarded contracts.*

Newark, N. J.—Bids were opened by Passaic Valley Sewerage Comrs. June 23 for constructing a part of Sect. 9, main intercepting sewer, consisting of Second River crossing and Newark meter, city of Newark and town of Belleville, as follows—(a) Cauldwell-Wingate Co., New York, $86,592; (b) Merrill-Ruckgaber Co., New York, $113,780; (c) P. H. & J. Conlan, Newark, $156,677; (d) Phoenix Constr. Co., New York, $173,335.

Unit prices of 4 lowest bids, (a), (b), (c), (d):

	(a)	(b)	(c)	(d)
Earth excavation for 1:2:6-sewer, Venturi meter, structures, conduits, etc. (lump sum)	$43,314.00	$71,000.00	$116,463.00	$110,975.00
100 cu. yds. rock excav., in trench, and open excav.	2.50	2.00	4.00	2.00
4,200 cu. yds. concrete masonry, in place, with Portland cement mortar	8.66	9.00	8.00	13.60
130,000 lbs. steel for concrete reinforcement and other purposes	.04	.03	.035	.032
400 long tons riprap, including gravel backing	3.50	2.00	4.00	2.00
16 sq. yds. granite block paving	3.50	5.00	4.00	5.00

Chicago, Ill.—Bids were opened June 25 by Sanitary Dist. of Chicago for constructing north shore intercepting sewer, Contract 3, and the following are totals of bids received, also unit prices on some of the principal items—(1) brick, (2) concrete: (a) Nash Bros., Chicago, (1) $248,376.30, (2) $255,895.75; (b) Nash-Dowdle Co., Chicago, (1) $637,307.75, (2) $637,028.75; (c) Henry C. Ulen, Chicago, (1) $249,988.45; (d) Marquette Constr. Co., Chicago, (1) $266,987, (2) $287,275:

	(a)	(b)	(c)	(d)
3530 lin. ft. sewer, 36 in. ovoid, concrete	$11.00	$11.75	$11.00	$10.25
3530 lin. ft. sewer, 36 in. ovoid, brick	11.50	11.50	...	10.25
8250 lin. ft. sewer, 33 in. ovoid, concrete	9.15	13.00	9.20	9.75
8250 lin. ft. sewer, 33 in. ovoid, brick	9.60	12.50	...	9.75
6413 lin. ft. sewer, 30 in. ovoid, concrete	8.85	15.00	8.90	9.95
6413 lin. ft. sewer, 30 in. ovoid, brick	9.00	13.50	...	9.95
4212 lin. ft. sewer, 24 in. circ., vitr. tile, conc. backing	10.00	15.00	10.00	11.70
4212 lin. ft. sewer, 24 in. circ., reinfcd. conc. pipe, conc. backing	10.00	16.00	...	14.50
2390 lin. ft. sewer, 18 in. circ., vitr. tile, conc. backing	8.70	9.00	8.75	11.00
2390 lin. ft. sewer, 18 in. circ., reinfcd. conc pipe, conc. backing	8.70	9.50	...	14.00
470 lin. ft. vitr. tile pipe, 12 in.	3.75	5.00	3.75	9.10
110 lin. ft. vitr. tile pipe, 9 in., with conc. backing	3.80	5.00	3.75	9.00
9 manholes, concrete	105.00	90.00	110.00	70.00
9 manholes, brick	115.00	80.00	110.00	70.00
430 lin. ft. manholes, concrete, Standard No. 2	15.00	700.00	15.00	5.00
430 lin. ft. manholes, brick, Standard No. 2	17.00	675.00	15.00	8.00

★**Middletown, Conn.**—Bids were opened June 22 for construction of sewer system in western portion of city from plans of Alex. Potter, 50 Church St., New York. A. Brazos & Son, Middletown, $20,196 (awarded contract); Frank Arrigoni & Bro., Middletown, $22,640; Berardino & Tomassette, Meriden, $23,542; Pierson Eng'g & Contr. Co., Hartford, $26,075; Young & Hyde, Inc., New York, $29,781.

★Unit prices of A. Brazos & Son, successful bidder on the above sewer:

1,000 cu. yds. loose rock excavn.	$.85
400 cu. yds. solid rock excavn.	2.00
600 cu. yds. quicksand	1.50
Pipe Sewers	
1,368 lin. ft. 8-in., 0- 6 ft. deep	.53
6,847 lin. ft. 8-in., 6- 8 ft. deep	.67
2,625 lin. ft. 8-in., 8-10 ft. deep	.79
455 lin. ft. 8-in., 10-12 ft. deep	1.09
210 lin. ft. 8-in., 12-14 ft. deep	1.45
5 lin. ft. 8-in., 14-16 ft. deep	2.00
1,892 lin. ft. 10-in., 0- 6 ft. deep	.74
293 lin. ft. 10-in., 6- 8 ft. deep	.85
257 lin. ft. 10-in., 8-10 ft. deep	.90
145 lin. ft. 10-in., 10-12 ft. deep	1.34
100 lin. ft. 10-in., 12-14 ft. deep	1.85
5 lin. ft. 10-in., 14-16 ft. deep	2.25
495 lin. ft. 12-in., 0- 6 ft. deep	.85
85 lin. ft. 12-in., 6- 8 ft. deep	1.00
13 lin. ft. 12-in., 8-10 ft. deep	1.05
1,142 lin. ft. 15-in., 0- 6 ft. deep	.86
50 lin. ft. 15-in., 6- 8 ft. deep	1.00
47 manholes	49.00
7 flush tanks	76.00
100 T branches on 8-in. pipe	.45
5 T branches on 10-in pipe	.75
500 lin. ft. gravel foundation	.10
84 lin. ft. 8-in. c.-i. culvert pipe	1.55
180 lin. ft. 12-in. c.-i. culvert pipe	2.80
192 lin. ft. 14-in. c.-i. culvert pipe	3.00
5 cu. yds. concrete masry.	8.00
10,000 ft. B.M. sheeting & timber fdtion.	30.00
Replacing 4,620 lin. ft. macadam pavt.	.06
Replacing 1,810 lin. ft. macadam pavt., including tarvia finish.	.13
105 lin. ft. tunnel	6.00

★Bids opened same time and place for sewage disposal plant:

Salvatore Mazzotti, Middletown, $7,001; Frank Arrigoni & Bro., Middletown, $7,061 (awarded contract); Suburban Engineering Co., New York, $7,170; A. Vignola & Co., Harrison, N. Y., $8,500; Young & Hyde, Inc., New York, $9,205; Pierson Eng'g & Contr. Co., Hartford, $11,375.

★Unit prices of Frank Arrigoni & Bro., Middletown, successful bidders:

250 cu. yds. dry excavn.	$.80
430 cu. yds. wet excavn. below elev. 29.	2.95
75 cu. yds. rock excavn.	2.95
120 cu. yds. Class A concrete	9.62
28 cu. yds. Class B concrete	6.32
215 bbls. cement	1.50
16,500 lbs. steel reinforcement	.04
775 sq. ft. No. 23 triang. mesh	.02
270 sq. ft. No. 28 triang. mesh	.03
Superstructure (lump sum)	1,250.00
Equipment (lump sum)	1,434.00
Sludge bed (lump sum.)	125.00
50 cu. yds. dry rubble masry.	4.50

★**West Haven, Conn.**—Bids were opened June 24 by Bd. Selectmen of Town of Orange at Town Hall, West Haven, for constructing about 35 miles of 8 to 24-in. vitr. pipe sewers, etc., from plans of Clyde Potts, 30 Church St., New York, and contracts were awarded as follows: Disposal works, to Cauldwell & Wingate, 1 Madison Ave., New York, and Atlantic Constr. & Supply Co., Atlantic City, N. J., at $40,645, to complete Aug. 1, 1915; sewer system, to Robt. D. Daly and Thos. F. Maher, associated, New Haven, Conn., at $182,754, to complete June, 1915.

★Unit prices of Robt. D. Daly and Thos. F. Maher, New Haven, Conn., successful bidders for sewer system, as follows:

Vitrified Pipe Sewers:	
64,805 ft. 8-in., 0-6 ft. deep	$0.44
70,150 ft. 8-in., 6-8 ft. deep	.54
5,240 ft. 8-in., 8-10 ft. deep	.75
850 ft. 8-in., 10-12 ft. deep	.97
4,540 ft. 10-in., 0-6 ft. deep	.54
8,645 ft. 10-in., 6-8 ft. deep	.69
930 ft. 10-in., 8-10 ft. deep	.86
1,960 ft. 12-in., 0-6 ft. deep	.61
1,830 ft. 12-in., 6-8 ft. deep	.80
550 ft. 12-in., 8-10 ft. deep	.91
815 ft. 15-in., 0-6 ft. deep	.75
3,620 ft. 15-in., 6-8 ft. deep	.90
3,920 ft. 15-in., 8-10 ft. deep	1.60
4,630 ft. 18-in., 0-6 ft. deep	1.11
4,455 ft. 18-in., 6-8 ft. deep	1.30
4,255 ft. 18-in., 8-10 ft. deep	1.50
2,350 ft. 18-in., 10-12 ft. deep	1.78
790 ft. 18-in., 12-14 ft. deep	2.20
2,300 ft. 24-in., 0-6 ft. deep	1.90
2,140 ft. 24-in., 6-8 ft. deep	2.28
2,115 ft. 24-in., 8-10 ft. deep	2.43
1,275 ft. 24-in., 10-12 ft. deep	2.63
.... ft. 24-in., 12-14 ft. deep	3.21
3,000 ft. deep house connections	.15
50 cu. yds. concrete, "A"	6.00
50 cu. yds. concrete, "B"	17.00
2,000 lbs. steel	.05
100 cu. yds. fill	.25
750 manholes, ea.	40.00
160 extra ft. manholes	3.92
Pumping station (lump sum)	9,600.00
1,700 ft. outfall	2.63
1,000 piles, ea.	1.00
560 ft. 6-in. c.-i. force main	1.25

Totals of other bids received, as follows: (a) sewer system; (b) disposal plant. Cauldwell-Wingate and Atlantic Constr. Co., (a) $184,976; Robt. D. Daly and Thos. F. Maher, (b) $79,600; John W. Heller, Newark, N. J., (a) $184,534, (b) $44,985; B. D. Pierce & Co., Bridgeport, (a) $187,165; Hanscom Constr. Co., Boston, Mass., (a) $191,640; Connecticut Eng. & Contr. Co., Norwich, (b) $47,712; Mason & Hilton, New York, (b) $49,700.

Long Island City, L. I., N. Y.—Bids desired until July 8 by Boro. Pres. for constructing temporary drain through property of Malba Estates Coporation from end of existing sewer at 5th Ave. to Powell's Cove. Security $14,000.

★**Syracuse, N. Y.**—Contract awarded by Bd. of Contract and Supply for repairing Free St. sewer to Saml. Bonn, at $11,981.

Medina, N. Y.—Bids desired until July 14 by Sewer Comrs. for furnishing material and constructing addition to sewer system of said village for southwestern portion thereof.

Bedford Hills, N. Y.—Bids desired until July 24 by Jas. Wood, Pres. Bd. Mgrs., N. Y. State Reformatory for Women, Bedford Hills, for additions and alterations to sewerage and sewage disposal plant; also for water supply for farm group cottages at the N. Y. State Reformatory for Women, Bedford Hills, advertised in Engineering Record. Lewis F. Pilcher, State Archt., Albany.

Rochester, N. Y.—Council has passed ordinances providing for construction of sewers as follows: Chili Ave. outlet sewer, $5000; Genessee Park Boule. outlet sewer, $8000; Northfield St. and Thurston Road outlet, $25,000; Lehigh Ave. sewer, $5000.

Lyons, N. Y.—Citizens voted to install system of sewers at a cost of $135,000.

Newark, N. J.—Bids desired until July 28 by Passaic Valley Sewerage Comn., Essex Bldg., Newark, for constructing Sect. 14 of the Main Intercepting Sewers in city of Passaic; also same time and place separate bids for constructing a part of Section 27 of the Main Intercepting Sewer, Passaic River Crossing, in compressed air tunnel in city of Newark, and town of Harrison, both proposals advertised in Engineering Record. Wm. M. Brown, Ch. Engr.

Tarentum, Pa.—Bids desired until July 20 by Boro. Council for constructing 4000 ft. 12-in. sanitary sewer, also 15 manholes, and a combined sterilizing and pumping plant, advertised in Engineering Record. Leo Hudson, Consulting Engr., 1210 House Bldg., Pittsburgh.

Laurel, Md.—City Council engaged Harry Stevens, Washington, D. C., to prepare plans for installation of additional water mains over streets, filtration plant and a complete sewage disposal plant; cost about $65,000.

Winston-Salem, N. C.—See "Public Buildings and Schools."

Scotland Neck, N. C.—See "Water Works."

Mt. Olive, N. C.—Question of constructing sewer system reported under consideration.

Social Circle, Ga.—See "Water Works."

Cartersville, Ga.—J. B. McCrary Co., Atlanta, making survey, with a view of devising system of sewerage for city.

Clearwater, Fla.—Contemplated improvements include bond issue of $35,000 for streets; sanitary sewer $20,000 and public pier $10,000.

Jacksonville, Fla.—Bids desired until 8 p. m. July 6 by Bd. Bond Trus., for furnishing f. o. b. Jacksonville, a sewage ejector, capacity 200 gals. per min. for 10 ft. lift, together with all necessary inlet, outlet, check, gate and operating valves. For further information apply to R. N. Ellis, Purchasing Agt.

Birmingham, Ala.—Bids desired until July 7 by City Comrs., for constructing sewers in Eastern part of city; also sanitary sewers in Owenton. Estimated cost, $13,000 and $10,000 respectively. Julian Kendrick, City Engr.

Memphis, Tenn.—Lowest bid opened June 23 by City Comrs. for constructing sewers on Keel Ave. submitted by Noll Constr. Co., at $6,505.

Cleveland, O.—Bids desired until July 8 by Comr. Purchase & Supplies, 513 City Hall, for furnishing and installing mechanical self-cleaning screen at W. 58th St. Sewage Treatment Works, Contract No. 2, advertised in Engineering Record.

Cheviot, O.—Citizens voted to issue $30,000 bonds for sewer system. Engineer, W. E. Sullivan, Cincinnati. Albert Rensing, Village Clk.

★**Akron, O.**—Contract reported awarded by City Council to the Duquesne Contr. Co., Pittsburgh, Pa., for a portion of the work on the sewage disposal plant as follows: removing earth excavation at $50,400; rock excavation, $5,000; rolled embankment, $3,800; parking, $3,000; and macadam roadways, $8,800. Balance of work to be readvertised.

Piqua, O.—Bids desired until July 9 by Director Pub. Service for constructing 4-ft. concrete storm sewer in Downing St.

Westerville, O.—Bids desired until July 17 by Village Council for improving and extending sanitary sewer system. Jennings, Lawrence & Lindsey, Engrs., Deshler Bldg., Columbus.

Marion, O.—Bids reported desired until July 8 by Director Pub. Service for constructing sewers in portions of Bennett, Wallace and Uncaphyr Sts.

★**Indianapolis, Ind.**—Contract for constructing Pogue's Run drain, reported awarded by Bd. Pub. Wks. to Dunn-McCarthy Co., Chicago, Ill., at $907,067 (bids for this work were opened May 11).

Cadillac, Mich.—City Comrs. reported to have decided to build city's sewage disposal plant by day labor; lowest bid recently said to amount to $39,000.

Lockport, Ill.—Press reports state that contract will soon be let for sewer system.

Farmington, Ill.—Engineer Dunn, Peoria, reported to be preparing plans for sewer system.

Springfield, Ill.—Bids desired until July 15 by John S. Schnepp, Mayor, for constructing a 5-ft. single ring brick sewer; etxension of Bunn Park sewer 3200 ft.; estimated cost, $14,000. W. D. Seeley, City Engr.

Chicago, Ill.—Following are totals of 4 lowest bids opened June 25 by Sanitary Dist. of Chicago for construction of sedimentation plant at Morton Grove: John T. Walbridge Eng. Co., Chicago, $9197; U. S. Development Co., Chicago, $16,565; Wm. Davidson, Wilmette, Ill., $12,253; Nash-Dowdle Co., Chicago, $10,722.

Reedsburg, Wis.—Bids desired until 7.30 p. m. July 6 by City Clerk for constructing lateral sewers in Pine and Main Sts.

Clarion, Ia.—Bids desired by F. W. Walker, City Clk., until July 21, for construction of sewer system.

Rockwell City, Ia.—See "Water Works."

Wapello, Ia.—Bids desired until July 9 by City Recorder for constructing either vitr. brick or concrete pipe sewer, in combination storm water and sanitary sewer, Sub. Sewerage Dist. No. 3, requiring 9687 lin. ft. 12 to 24 in. pipe sewer, 3992 lin. ft. 4 in. water pipe, etc. Central States Engr. Co., Engrs., Muscatine.

★**Aledo, Ia.**—Contract reported awarded to Dalton Bros., Wilmette, Ill., for constructing sewers at $5,316.

Staples, Minn.—Bids desired until July 14 by City Clerk for constructing a sewage disposal plant consisting of an Imhoff tank and sludge bed at the outlet of the city sewer.

★**Virginia, Minn.**—Contract awarded by City Council for sewers to Lawrence McCann Constr. Co., Virginia, at $66,072.

Osborne, Kan.—Council is reported to have passed ordinance providing for construction of intercepting sewer and disposal plant.

Fremont, Neb.—Bids desired until 7.30 p. m., July 6, by Bd. Pub. Wks., for constructing sanitary sewer from Platte Ave. and 5th St., to open sewer ditch, in all 7948 lin. ft. concrete or vitr. pipe sewer.

Helena, Mont.—City Council considering construction of small sewers to be let under one general contract; cost, about $30,000.

Eureka Springs, Ark.—See "Water Works."

Harrison, Ark.—See "Water Works."

Benton, Ark.—See "Water Works."

Siloam Springs, Ark.—City Council has passed ordinance looking to formation of an improvement district to construct sewer system.

★**San Antonio, Tex.**—Contract reported awarded by City Council June 24 for construction of sewers as follows: 7th ward, Truehart & Jackson, $13,070; Peach St. Dist., Bailey & Reeder, $16,003; Dignowity Hill Dist., San Antonio Eng. & Constr. Co., $5,432.

Eagle Pass, Tex.—City Council considering construction of sewer system.

Spokane, Wash.—Plans reported completed by City Engineer for construction of Down Town Intercepting sewer, to cost about $112,000.

Palouse, Wash.—Bids desired until July 14 by City Clerk for constructing sewer system in Local Improv. Dist. No. 2. J. M. McCaw, City Engr.

★**Pullman, Wash.**—Contract reported awarded to W. G. Mulligan Co., Spokane for constructing sewer system.

Enterprise, Ore.—Bonds in sum of $20,000 reported voted, for constructing sewer system.

★**Dayton, Ore.**—Arenz Constr. Co., Salem, reported to have secured contract for installing sewers, paving, grading, etc., at $9,730.

★**Portland, Ore.**—Commisioner Dieck has recommended that contract for construction of Rhine St. sewer be awarded to Wm. Lind, at $108,599.

Plans have been prepared by City Engineer for E. 63d St. extension of East Stark St. sewer system, to run to city limits at Montavilla and swing south of Base Line road, so as to serve East Mt. Tabor; this sewer will cost about $150,000.

Resolutions reported adopted by City Council for constructing sewers, as follows: Willow St. and 84th Ave., cost $109,793; E. Gilisan St., cost $8,000, and sewers in Fulton Park, cost $47,800.

Lowest bid for sewers in E. 55th St. submitted by Azar & Co., at $7,679.

Sacramento, Cal.—Plans reported completed by City Engineer for a sewage pumping station at Franklin and Riverside Aves.; cost, about $125,000.

Long Beach, Cal.—Bids desired until July 22 by Bd. Pub. Wks., for constructing an outfall sewer system and sewage disposal plant, requiring 63,412 ft. 10 to 48-in. sewer, 167 manholes, disposal tanks, pumps and 1100 ft. 36-in. c.-i. ocean outlet.

Los Angeles, Cal.—Bids reported desired until July 13 by Bd. Pub. Wks., for constructing brick and monolithic concrete storm sewer in Santa Monica Boule., Madison Ave. and 15 other streets.

Stege, Cal.—Bonds in sum of $75,000 reported sold, for construction of a sewerage system.

Lewiston, Idaho.—Plans being prepared by City Engineer for sewers on 21st and 27th Sts., from Main St. to Clearwater River; cost, $30,000.

Pocatello, Idaho.—Bids will soon be asked for purchase of $64,000 bonds for constructing sewer system.

St. Lambert, Que.—Bids desired until 6 p. m., July 6, for constructing storm and sanitary sewers, street gulleys and manholes. E. Drinkwater, Town Engr.

★*Items marked thus give the names of parties awarded contracts.*

Toronto, Ont.—Council passed by-laws to raise amounts for following purposes: $203,660 for reconstruction of Kew Beach sewer outlet, and main drainage section; $228,580 to make a grant of $210,000 to Toronto General Hospital; $69,411 for Beach Ave. boostered main and other mains; $243,000 to provide balance of estimated cost of Gerrard St. bridge over Don, to cost $443,000; $43,540 to provide for cost of Princess St. cribbing; $111,244 for retaining wall on Dundas St.; $13,000 St. Clair Ave. bridge; $80,000, and additional expenditure on Crawford St. bridge, $9,200.

Bids desired until July 7 by Chairman Bd. Control for constructing sewers in portions of James Pl., Pinehurst Ave., Queen and several other streets. Frank Barber, Engr., 57 Adelaide St., E.

Vancouver, B. C.—Bids reported desired until July 18 by Joint Sewerage Comm. Greater Vancouver for installation of lateral sewers to connect with trunk mains already installed. Cost $300,000.

BRIDGES.

Items Arranged Geographically

★**Lewiston, Me.**—Contract for erecting railroad bridge in Lewiston awarded to Watson Mfg. Co., Paterson, N. J., at $43,000.

Clinton, Mass.—Plans being prepared by F. H. Bateman, Town Engineer, for a concrete bridge to be constructed over Nashua River; cost, $15,000.

Connecticut—See "Paving and Roads."

Bridgeport, Conn.—Appointment of Special Com. to negotiate with Fairfield for bridge over Ash Creek at Brewster St. is recommended in report to Common Council by Com. on Streets and sidewalks.

New York, N. Y.—Bids were opened June 23 by Bd. Water Supply, Municipal Bldg., New York, for Contract 76, constructing Ashokan Bridge, a reinforced concrete structure, in town of Olive, Ulster County, and lowest bid was submitted by Transit Constr. Co., Mt. Vernon; unofficial total, $114,535.

★**Newton, N. J.**—Contract awarded June 22 to J. E. Edsall, Franklin, at $2,500 for constructing girder bridge. Harry Snook, County Engr.

Perth Amboy, N. J.—Middlesex County Bd. Freeholders at New Brunswick voted to construct concrete bridge over Covery Pl., Perth Amboy; cost, $50,000.

West Chester, Pa.—Bids desired until noon, July 6, by County Comrs., West Chester, for constructing steel girder bridge Over Doe Run Creek, near Springdell Station, Pomeroy & Newark R. R.

Petersburg, Va.—War Dept. approved plans of Robt. D. Budd, City Engineer, for concrete bridge to be erected over Appomattox River; cost $50,000.

★**Burlington, N. C.**—Contracts have been awarded to Curtis-Thornton Co., Burlington, for constructing small bridges in Surry, Watauga, Durham, Orange, Burke and Davidson Counties, N. C.; also for 5 steel bridges in various parts of the state. This company wants to purchase double angle iron shears, another punch, additional chain hoists and electric lifts.

★**Hamilton, Ala.**—Contract for constructing 3-deck span steel bridge over Buttahatchie River awarded by Bd. County Comrs. to Southern Bridge Co., Birmingham, at $6,434. Bids opened June 16.

Birmingham, Ala.—Bids desired until July 15 by County Bd. Revenue, Birmingham, for constructing 60 ft. steel bridge over Self's Creek, near Indio. J. W. Gwin, Co. Engr.

Chattanooga, Tenn.—Plans have been approved for 2-span concrete bridge to be constructed over Tennessee River for county.

Louisville, Ky.—Bids desired until July 7 by Bd. Pub. Wks., for constructing reinforced concrete arch bridge over Beargrass Creek on Ellison Ave.

★**Miamiville, O.**—Contract awarded by Co. Comrs. at Cincinnati, June 19, for constructing bridge over Little Miami River, Miamiville, to Peter Praehter, Girard St., Cincinnati. Albert Reinhardt, Clk. Co. Comrs.

★**Remington, O.**—Contract awarded by Co. Comrs. at Cincinnati, June 19, for sub and superstructure of bridge over Little Miami River at Remington to Chas. Staab, of Reading, O. Albert Reinhardt, Clk. Co. Comrs.

Marysville, O.—Bids desired until July 27 by County Auditor for constructing Magnetic Springs Bridge, Magnetic Springs, Leesburg Township, 75 ft. span, 16 ft. roadway and 5 ft. walk.

Cleveland, O.—Bids desired until July 22 (extension of date from July 18) by County Comrs., for constructing reinforced concrete arch bridge on Pearl Rd., across Big Creek Valley, Cleveland. Estimated cost, $600,000.

Akron, O.—Bids desired until July 10 by County Comrs. for constructing substructure and superstructure of Pleasant Valley Bridge.

Miamisburg, O.—Bids desired until July 11 by Co. Comrs., Dayton, for constructing substructure of Bridge No. 241, Miami Township, known as Linden Ave. Bridge, Miamisburg, also to include removal of old substructure, advertised in Engineering Record. Victor C. Smith, Co. Surveyor.

Indianapolis, Ind.—Bids reported desired by County Comrs. until July 10 (re-advertisement) for constructing bridge over White River at W. Washington St.

★Contract for constructing superstructure Minnesota St. Bridge over Pleasant Run awarded by Bd. Pub. Wks. to Central States Bridge Co., 601 Beecher St., at $7,385.

★**Owosso, Mich.**—Contract for constructing concrete bridge over Shiawassee River, north Owosso on Saginaw-Owosso Highway, awarded by State Highway Dept., Lansing, to Illinois Bridge Co., Chicago, Ill., at $10,000.

Pekin, Ill.—See "Hydraulic Construction and River Improvements."

★**Rockville, Wis.**—Contract awarded June 25 by Kug & Smith, Engrs., Milwaukee, for constructing two 40-ft. concrete and steel truss bridges over Sheboygan River, near Rockville, to Pellet & McMullen, Manitowoc, at $3,464.

Muscatine, Ia.—C. H. Young, City Engineer, directed to prepare plans and estimates for constructing bridge over Mad Creek on E. 2d St.; cost about $25,000.

Waterloo, Ia.—The only bid opened June 22 for paving Kimball and Reeber Aves. and other streets with asphalt was submitted by Bryant Asphalt Paving Co., Waterloo, as follows: 33,700 sq. yds. sheet asphalt pavt., $1.90; 20,160 lin. ft. combined curb and gutter, 60 cts.; 1180 lin. ft. curb reset, 35 cts.; 1300 lin. ft. plain curb, 35 cts.; 300 sq. ft. retaining wall, 35 cts.; 1836 sq. yds. St. Ry. pavt. $3.25.

Winona, Minn.—Plans being prepared for extending high wagon bridge for city; cost about $100,000.

★**Emporia, Kan.**—Contract for constructing concrete bridge over Cottonwood River awarded to Missouri Valley Bridge & Iron Co., Leavenworth, at $13,700.

Salina, Kan.—Bids desired until July 6 by County Comrs. at Pryor, for constructing bridge across Grand River at Salina. Hedrick & Cochran, Engrs., 1118 McGee St., Kansas City, Mo.

★**Nebraska City, Neb.**—Contract has been awarded by County Comrs. to Wilson Reinforced Concrete Co., for constructing a concrete bridge, at $5,825.

Nevada, Mo.—Bids reported desired until July 21 by County Court for constructing 60 ft. truss bridge and 4 beam bridges.

★**Kansas City, Mo.**—Contract awarded June 23 by County Comrs. to Phillips & Winfrey, of Buckner, for constructing 2 concrete approaches over M. P. Ry. at Slayton Road, at $14,831. Other bids: Midwest Constr. Co., Kansas City, $16,972; Midland Bridge Co., Kansas City, $15,978, and Mulholland Constr. Co., Kansas City, $15,000. R. T. Proctor, County Surveyor.

Independence, Mo.—Bids desired until July 9 by County Court, at Independence (not Kansas City, as previously stated), for constructing 2 reinforced concrete approaches, total length, 269 ft., 30 ft. roadway to Blue Ridge Boule., crossing Metropolitan Street Ry. tracks, Athol station. Rowland T. Proctor, Co. Surveyor.

Springfield, Mo.—Bids desired until July 6 by County Highway Engr., for constructing 2 62-ft. concrete through girder bridges, each to have 2 31-ft. spans, one 16 miles northeast of Springfield and one 7 miles east of Springfield; 2 34-ft. 6-in. concrete bridges, each to have 2 17-ft. 3-in. spans, one at Hickory Barrens and one near Walnut Grove; 27-ft. concrete span, through girder type at Galloway; 28 ft. 6 in. concrete bridge, 2 14-ft. 3-in. spans, 3 miles west of Springfield; also constructing several culverts.

Batesville, Ark.—Bids reported desired until July 10 by County Judge for constructing concrete bridge, 120 ft., 3 arches.

★**Fayetteville, Ark.**—Contract for erecting 2 steel wagon bridges, one over Illinois River, at Howe's Ford, and one over West Fork, at Comb's Ford, awarded to Vincennes Constr. Co., Vincennes, Ind., at $7,680.

Marble Falls, Tex.—The city will require a steel or reinforced concrete bridge 16 ft. wide, over creek 126 ft. wide; sand, gravel and water at hand. Height above water level 15½ ft., approximately 10 ft. from water level to greatest depth of foundation. R. E. Johnson, Mayor.

★**San Antonio, Tex.**—Contract awarded by City Council June 24 for new bridge over Alazan Creek at West Commerce St. to the Bexar Constr. Co. at $8,390, which provides for use of trap rock.

★**Everett, Wash.**—Contract for constructing 180 ft. steel bridge near Everett awarded by County Comrs. to Geo. H. Griffin, Alaska Bldg., Seattle, at $32,108.

County Comrs. contemplate constructing 4 bridges and roadway; cost about $165,000.

★**Astoria, Ore.**—Contract for constructing 5 steel bridges in Clatsop County awarded by County Court to Portland Bridge Co. at $18,500.

Portland, Ore.—Plans prepared by City Dept. Bridges and Highways for viaduct on Holgate St. over Southern Pacific shops for Oregon & Washington R. R. & Navigation Co. (G. W. Boschke, Ch. Engr., Portland). Cost about $56,000. Structure to be 300 ft. long, 28 ft. roadway and two 6-ft. sidewalks on each side.

All bids opened June 24 by Co. Comrs. for constructing Sandy River Bridge rejected, and new bids will be received in about 2 weeks, to include river piers. Four lowest bids opened June 24: The Construction Co., $17,748; Robt. Wakefield, $17,900; Geo. H. Griffe, $17,967, and Coast Bridge Co. $18,274. H. L. Bowlby, State Highway Engr., Room 442, Court House.

Sacramento, Cal.—All bids opened June 8 by California Highway Comn., Forum Bldg., Sacramento, for reinforced concrete and timber trestles in Yolo Co., across Yolo By-Pass, a length of about 3 miles, rejected. New bids desired until July 20.

★**Yuma, Ariz.**—Contract awarded by Comr. Indian Affairs, Washington, D. C., for steel highway bridge across Colorado River to Omaha Bridge & Iron Work Co., Omaha, Neb., at $72,000 (bids opened June 15).

Boise, Idaho.—Bids desired until July 30 by U. S. Reclamation Service, Boise, Idaho, for constructing a 96-ft. span steel highway bridge over spillway channel, Arrowrock Dam, Boise Project, advertised in Engineering Record.

Pocatello, Idaho.—City Council considering extending Center St. Viaduct.

Toronto, Ont.—See "Sewerage and Sewage Disposal."

Vancouver, B. C.—Contract will be let about July 15 by Burrard Inlet Tunnel & Bridge Co. for constructing bridge over Second Narrows; cost about $2,000,000.

PAVING AND ROADS.

Items Arranged Geographically

★**Maine.**—Bids were opened June 25 by State Highway Comr., Augusta, and following are 3 lowest bids as submitted on each road:

★Norridgewock—5.61 miles: Amos D. Bridges' Sons, Hazardville, Conn., $31,397; R. G. Miller, Hartford, Conn., $30,440 (awarded contract); International Constr. Co., Boston, Mass., $38,844.

Madison—1.08 miles (not awarded): International Constr. Co., (2 bids) $6,379 and $6,756; R. G. Miller, (2 bids) $4,900 and $5,712; A. D. Bridges, (2 bids) $4,687 and $5,736.

★Farmington—3.64 miles: Forgione & Romano, South Portland, Me., $18,085 (awarded contract); Amos D. Bridges' Sons, Hazardville, Conn., $19,187; R. G. Miller Constr. Co., $18,538.

★Strong—3.409 miles: Forgione & Romano, South Portland, Me., $19,284 (awarded contract); Amos D. Bridges' Sons, $19,345; R. G. Miller Constr. Co., $19,511.

★Whiting—9.23 miles: R. G. Miller Constr. Co., $42,128; Small & Ingalls, Bar Harbor, $48,926; Wiseman & McPhail, Smyrna Mills, Me., $30,533 (awarded contract).

★Newport—1.59 miles: R. G. Miller Constr. Co., $11,027; C. M. Thompson, Kingman, Me., $9,995 (awarded contract); John G. Flemming, Lincoln, Me., $10,823.

★Etna—2.70 miles: C. N. Thompson, $18,570; J. G. Fleming, Lincoln, Me., $16,107 (awarded contract); R. G. Miller Constr. Co., $19,436.

Northport—3.7 miles (only bid): A. G. Bridges' Sons, $23,182.

★**Massachusetts.**—Contracts awarded June 23 by State Highway Comn., 15 Ashburton Pl., Boston, for following roads:

★Freetown, 10,500 ft. to Z. L. Canedy, Lakeville, $12,686.

★Windsor, 4300 ft. to Horne-Lowe Contr. Co., Millbury, $11,320.

Northampton, Mass.—Main St. and Mt. Tom Rd. is to be macadamized; cost, $37,000.

Boston, Mass.—About $1,016,500 is to be spent on street improvements in Roxbury, West Roxbury, Boston, and South Boston.

Bids desired until July 7 by State Highway Comn., Boston, for constructing roads in towns as follows: Sudbury, 6200 ft.; Williamstown, 10,500 ft.; Peabody, 4200 ft.

Sterling, Mass.—State Highway Comn. has appropriated $12,000 additional, making total $39,000, for highway from Leominster to Pratt Junction.

★**Newport, R. I.**—Contracts for constructing roads and walks at Naval Station awarded to Peter Bompiana & Co., P. O. Box 34, Boston, Mass., at $6,387. Bids opened June 6 by Chief Bureau Yards and Docks, Navy Dept.

★**Connecticut.**—Contracts awarded by Chas. J. Bennett, State Highway Comr., Hartford, for constructing state roads, as follows:

Simsbury, macadam road, to Olin T. Benedict, Pittsfield, Mass., at $6,001.

Seymour, 3 sections Hassam road, to Connecticut Hassam Paving Co., at $10,212.

Connecticut.—Bids desired at office of State Highway Comr., Hartford, until July 14 for following sections of highway improvement (length given approximate only):

Huntington, 5750 lin. ft. gravel or native stone macadam and 6750 lin. ft. gravel, native stone macadam or trap rock macadam. Plans at Town Clerk's office, Huntington.

Norwalk, 5840 lin. ft. warrenite, amiesite, hassam or concrete (plain and reinforced) pavt. Plans at City Engineer's office, Norwalk.

Westport, 4050 lin. ft. warrenite, amiesite, hassam or concrete (plain and reinforced). Plans at Town Clerk's office Westport.

Bridgeport and Fairfield, 4470 sq. yds. warrenite, amiesite, bituminous concrete or asphalt. Plans at office of Director Pub. Wks., City Hall, Bridgeport.

Cornwall and Goshen, 10,150 lin. ft. special 3-in. native stone macadam; also 13,550 lin. ft. native stone resurfacing. Plans at office of R. S. Hulbert, Div. Engr., Winsted.

Scotland, 20-ft. span reinforced concrete bridge. Plans at office of E. C. Welden, Div. Engr., Jordan Blk., Willimantic.

Woodstock, 16-ft. span reinforced concrete bridge. Plans at office of E. C. Welden, Div. Engr., Jordan Blk., Willimantic.

Pomfret, 3 reinforced concrete bridges. Plans at house of Geo. H. Hicks, 1st Selectman, Pomfret, Abington.

New Haven, Conn.—Bids desired until July 7 by F. L. Ford, City Engr., for paving, with creosoted wood block, Church St. and interesection of Winchester Ave. and Munson Sts., in all 3365 sq. yds. creosoted wood block pavt.

Brooklyn, N. Y.—Bids desired until July 8 by Boro. President, for repaving portions of Rockwell Pl., Bergen and Midwood Sts. and Cropsey Ave., in all 16,860 sq. yds. asphalt pavt., 1215 sq. yds. wood block pavt., etc.

★**Yonkers, N. Y.**—Contracts for paving awarded by Bd. Contract & Supply June 22, as follows: Sheet asphalt and small block on Buena Vista Ave. and Riverdale Ave., to Kearns & Hart Constr. Co., 280 Nephram Ave., at $53,329; macadam pavement on Ashburton Ave. to Michael Nolan, at $21,637.

Poughkeepsie, N. Y.—Bids desired until July 9 by Bd. Pub. Wks. for paving Garden St., 6350 sq. yds. sheet asphalt pavt., 1600 sq. yds. vitr. brick on grades, 5000 lin. ft. bluestone curb, 7950 sq. yds. excav. and grading, and 500 lin. ft. resetting of old curb; also same time and place, separate bids for 440 sq. yds. vitr. brick. pavt. on Jefferson St., 360 lin. ft. bluestone curb, 440 sq. yds. excav. and grading, both proposals advertised in Engineering Record.

★**Rochester, N. Y.**—Contract for brick pavement on Cottage St. awarded by Bd. Contract and Supply to Thos. Holohan, 164 Lewis St., at $11,786

Culver Rd. is to be paved at a cost of about $31,000.

Albany, N. Y.—Bids desired until July 6 by Bd. Contract and Supply for repaving State St. and improving Glenwood, Oakwood and 6 other streets. Work includes creosoted wood block, asphalt and vitr. shale block pavt., granite, concrete and brick walks, extending sewer laterals and water service, etc.; also separately for constructing concrete and gravel walks, vitr. block driveway, gravel driveway, constructing concrete steps, platforms and sidewalks, together with grading incidental thereto, on grounds of Albany High School.

★**Port Jervis, N. Y.**—Contract awarded June 15 for paving on Jersey Ave. and Pike St. with curb to Port Jervis Constr. Co., at $14,677, Mack block to be used. The work comprises about 5700 sq. yds. brick pav. with concrete foundation; 2200 cu. yds. excav.; 150 lin. ft. protection curb; 1000 lin. ft. new 4 x 20-in. curb; reset 600 lin. ft. curb in concrete; 10 radius corners, 18-in. radius; 30 radius corners, 24-in.; 6 street corners, 4-ft. John F. Cleary, City Clk.

Ithaca, N. Y.—Bids desired until July 15 by Bd. Pub. Wks. for constructing brick pavt. and alternate bids for concrete pavt. on Thurston Ave. from Upper Fall Creek Bridge to Wyckoff Ave.

Phelps, N. Y.—Citizens voted $21,000 additional for paving with brick Main St.; cost about $55,000.

Albany, N. Y.—Bids opened by State Highway Comn., 55 Lancaster St., June 25, for construction of public highways by State aid (3 lowest bids on each road):

Road No. 1175, Fairhaven Village, Cayuga Co., 1.82 mile—Greece Constr. Co., Rochester, $30,810; Chambers & Barnes, Rochester, $31,267; Ribstine-Holter Co., Rochester, $31,186.

Road 1195, Elmira City Division and Grand Central Ave., Chemung Co., 1.14 mile—John Kelly, Elmira, $25,534; James McGuigan, Elmira, $33,714; Ewd. W. Walsh, Elmira, $33,591.

Road 5340, East Branch-Sullivan Co. Line, Part 2, Delaware Co., 6.84 miles—Nathan E. Young, Harpursville, $96,918; Ruddy-Saunders Co., Troy, $97,632; John DeMichael & Bro., Torrington, Conn., $100,375.

Road 5493, Batavia-Stafford, Pt. 2, Genesee Co., 0.27 mile—Witt & Blades.

★*Items marked thus give the names of parties awarded contracts.*

Hornell, $7,142; Thos. Fitzgerald Co., Buffalo, $7,155; Brooks & Julian, Rochester, $7,216.

Road 1193, Lowville-Croghan, Lewis Co., 9.17 miles—James L. Kehoe, Newburg, $105,465; Joseph Mascetti, Torrington, Conn., $96,674; Winston & Co., Brown Station, $110,414.

Road 1191, Carthage-Naumburg, Pt. 2, Lewis Co., 6.38 miles—Joseph Mascetti, Torrington, Conn., $58,960; James L. Kehoe, Newburg, $64,254; Fort Schuyler Constr. Co., Utica, $62,667.

Road 1192—Naumburg-Croghan, Lewis, Co., 5.73 miles—Jos. Mascetti, Torrington, Conn., $59,613; Newport Constr. Co., Herkimer, N. Y., $60,686; Burns & McConville, Ogdensburg, N. Y., $64,121.

Road 5492, Hamilton-Bouckville, Madison Co., 5.79 miles—Fort Schuyler Constr. Co., Utica, $55,196; Newport Constr. Co., Herkimer, $54,622; Paddleford & King, Sherburne, $53,234.

Road 5486, Oswego City-West Seneca St.-W. Bridge St., Oswego Co., 1.13 mile—S. V. R. Malcolm & Son, Medina, N. Y., $31,278; Guy B. Dickison, Syracuse, N. Y., $46,580; J. A. Culkin & Co., Oswego, N. Y., $47,471.

Road 487, Oswego City-E. 9th & Oneida Sts. & State Road, Oswego Co., 1.47 mile (Two bidders)—Guy B. Dickison, Syracuse, $32,106; Thos. Hucknall & Co., Albion, $30,709.

Road 662, Rushville-Gorham, Ontario Co., 6.06 miles—J. W. Brennan & Co., Inc., Geneva, $45,366.20; Wm. H. Madden, Rochester, $44,232.10; E. R. Weed & Son, Holley, N. Y., $44,693.70.

Road 1196, Gorham-Stanley, Pt. 2, Ontario Co., 1.89 mile—J. W. Brennan & Co., Geneva, N. Y., $15,797; Thomas Hucknall Constr. Co., Albion, N. Y., $15,872; E. R. Weed & Son., Holley, N. Y., $15,311.

Road 1119-A, Troy City-Spring Ave., Rensselaer Co., 1.72 mile—Parker Hassam Paving Co., Worcester, Mass., $74,079; County Constr. Co., Troy, $75,148; Edw. Walsh, Troy, $73,566.

Road 1194, Rensselaer City-High St., Rensselaer Co., 0.39 mile (Two bidders)—Jas. J. Rignay, Rensselaer, $6,058; Olin T. Benedict, Pittsford, Mass., $7,058.

Road 981A, Defreestville - Couse, Rensselaer Co., 3.14 miles—Roger B. Kennedy, Utica, $22,845; C. D. Dean, Albany, $23,228; County Constr. Co., Troy, $23,327.

Road 1115-A, 1116-A, Castleton-Rensselear, Pts. 1 & 2, Rensselaer Co., 1.91 mile (Only bid)—S. B. Van Wagonen, Rondout, $29,741.

Road 5497, Ogdensburg-Waddington, Pt. 1, St. Lawrence Co., 9.79 miles—Samuel Beskin, Beacon, N. Y., $114,165; Y. H. Gill Co., Boston, Mass., $110,194; Burns Bros & McConville, Ogdensburg, $114,014.

Road 5494, Schoharie Village-Main St., Schoharie Co., 0.70 mile (Only bid)—Jos. P. Scanlon, Albany, $20,255.

Road 5488, Patchogue-Moriches, Suffolk Co., 12.89 miles—Wm. Baker, Inc., New York, $170,130; Frank Arrigano & Bro., Middletown, Conn., $156,688; Sam'l Beskin, Beacon, $169,318.

Road 5490, Monticello Village-Broadway & Jefferson Sts., Sullivan Co., 1.56 mile—Heneboldt & Washington, Monticello, $52,-973; Wm. P. McDonald Constr. Co., New York, $55,921; John I. McDonald Co., Mt. Vernon, N. Y., $55,322.

Road No. 5253-C, Jasper-Addison, Steuben Co., 4.37 miles—Frank J. Foote, Nunda, N. Y., 46,626; T. H. Gill, Boston, Mass., $45,902; McGuire & Fahey, Hornell, N. Y., $48,073.

Road 5356, White Plains-Village, Westchester Co., 2.24 miles—John P. McDonald Constr. Co., Mt. Vernon, N. Y., $91,-213; Wm. F. McCabe Constr. Co., White Plains, N. Y., $89,753; John L. Hayes, Yonkers, N. Y., $89,373.50.

Road 1160, Oneida-Munnsville, Pt. 1, Madison Co., 4.96 miles—Stanley Constr. Co., Buffalo, $40,226.50; Olin T. Benedict, Pittsfield, Mass., $40,541; Fort Schuyler Constr. Co., Utica, 39,572.

Bids opened same time and place as above for repair of public highways by State aid (2 lowest bids given on each Road):

Rep. Con. 660, Road 508, Albany Co.—Belotte & Marchese, Troy, $14,747; W. L. Lawton, Glens Falls, $15,438.

Rep. Con. 530, Road 505, Chenango Co.—Paddleford & King, Sherburne, $17,847; Nash & Griffin, Norwich, $18,452.

Rep. Con. 667, Road 5092, Dutchess Co.—D. E. Lynch, Rhinebeck, $9,658; Wm. Doyle, Saugerties, $9,669.

Rep. Con. 668, Road 841, Essex Co.—Defiance Corporation, Ticonderoga, $6,778; Richard Hopkins, Troy, $5,548.

Rep. Con. 661, Roads 456, 5159 and 5028, Herkimer and Montgomery Cos.—Jackson L. Richmons, Little Falls, N. Y., $14,533; R. D. Cooper, Little Falls, N. Y., $14,376.

Rep. Con. 666, Road 154, Orange Co.—Schunnemunk Constr. Co., Highland Mills, $5,955; Jas. L. Kehoe, Newburgh, $5,828.

Rep. Con. 651, Road 77, Rensselaer Co.—Belotte & Marchese, Troy, $29,751; County Constr. Co., Troy, $25,644.

Rep. Con. 577, Road 436, Nassau Co.—Powers & Wheeler, Oyster Bay, $21,949.70; Murray & Gardner, Center Moriches, $21,-178.

Rep. Con. 669, Road 9006, Rockland Co.—Aetna Contg. Co., Nyack, $26,671; DeGraffe & Hogeboom, Kingston, $29,467.

Rep. Con. 598, Road 441, Saratoga Co.—W. L. Lawton, Glens Falls, $19,883; Champlain Constr. Co., Saratoga Spgs., $18,552.

Rep. Con. 670, Roads 5361 and 5321, Yonkers-White Plains and White Plains-Rye, Westchester Co.—Wm. Doyle, Saugerties, $9,148; Wm. F. McCabe Constr. Co., White Plains, $8,710.

Rep. Con. 664, Roads 54, 143 and 587, Westchester Co.—Hughes & Gardner, N. Tarrytown, $5,795; Wm. Doyle, Saugerties, $5,578.

Rep. Con. 665, Roads 35 and 20, Westchester Co.—Wm. Doyle, Saugerties, $3,086; Hughes & Gardner, N. Tarrytown, $4,128.

Rep. Con. 663, Road 519, Westchester Co.—James Garafano & Bro., Mt. Vernon, N. Y., $8,815; Wm. P. McDonald Constr. Co., New York, $8,625.

New Brunswick, N. J.—Bids reported desired until July 13 for constructing 8262 ft. concrete pavt. on Roosevelt-Woodbridge Rd.

★**Newark, N. J.**—Bd. of Works on June 25 awarded contracts for paving as follows: Broad St., with asphalt block, to Hastings Paving Co., at $46,685; Orange St., with granite, to Van Keuren & Son, Passaic Ave., at $77,835; Gladstone and Lyons Aves., to Standard Bitulithic Co., 810 Union Bldg., at $5,105 and $38,650, respectively.

★**Hackensack, N. J.**—Contract for improving Paterson Plank Rd. awarded to E. C. Humphrey, Hackensack. Bids opened by Bd. Chosen Freeholders June 19.

Pittsburgh, Pa.—Bids desired until July 22 by County Comptroller, Pittsburgh, for improving various roads and highways in Allegheny County, in all about 10 miles.

Pennsylvania—Bids desired until July 21 by State Highway Dept., Harrisburg, for constructing roads as follows: (Edw. M. Bigelow, State Highway Comr.)

Bristol, Bucks Co., 5524 ft. Alternate bids: Amiesite, warrenite, filbertine, unionite and asphaltic bituminous macadam (penetration method).

Ridgway, Elk Co., 6111 ft., brick block.

Milford, Somerset Co., 5000 ft. Alternate bids: Asphaltic bituminous macadam (penetration method) and waterbound macadam.

Summit, Somerset Co., 5256 ft. asphaltic bituminous macadam (penetration method).

Blossburg, Tioga Co., 10,907 ft. brick block.

Allegheny, Westmoreland Co., 15,450 ft. waterbound macadam.

Jackson, Venango Co., 2796 ft. brick block.

Franklin, Greene Co., 15,063 ft. brick block.

West Rockhill and Telford, Bucks Co., 12,065 ft. Alternate bids: Amiesite, warrenite, filbertine, unionite and Asphaltic bituminous macadam (penetration method).

★**Harrisburg, Pa.**—Contract for paving with asphaltic bituminous macadam 15,272 ft. roadway in Kennett Township awarded by State Highway Comn. to D. E. O'Connell & Sons, Avondale, at $53,964.

★**Carrick, Pa.**—Contract for grading, curbing and paving Parkway awarded by Borough Council to Thos. Cronin Co., at $10,410.

Pottsville, Pa.—Bids desired until July 22 by City Clerk for grading, curbing and paving a portion of Market St., about 12,-866 sq. yds. treated wood block or vitr. pavt., advertised in Engineering Record. Wm. S. Pugh, City Engr.

★**Mansfield, Pa.**—Contract for 7464 ft. brick block pavement in Mansfield awarded by State Highway Dept., Harrisburg, to Simpson-Mitchell Co., Punxsutawney, Pa., at $48,398.

Charleroi, Pa.—Bids desired until July 11 by Township Superv., West Pike Run Township, at office of Guy Moffit, Attorney, for grading, curbing and paving Little Pike Run Rd., 4500 ft., and Centerville Rd., 490 ft. Chaney & Armstrong, Engrs., Washington. Bids desired same place as above for furnishing f. o. b. California Station, P. V. & C. R. R., vitr. block, sufficient to lay 6650 sq. yds. paving.

Grove City, Pa.—Bids desired until July 7 for about 6500 sq. yds. either brick or asphaltic concrete with concrete curb. Plans on file at City Manager's office.

★**Reading, Pa.**—Contracts awarded for street paving (bids opened June 19) as follows: For 13,812 sq. yds. vitr. block pavt. on concrete base; 8667 sq. yds. wood block pavt. concrete base; 4727 sq. yds. resurfacing vitr. block with wood block and 2401 sq. yds. resurfacing vitr. block with vitr. block to Fehr & O'Rourke, Reading; 28,133 sq. yds. resurfacing vitr. block with bituminous macadam (hot mixed) and 4342 sq. yds. concrete gutters for pavt. to Hassam Paving Co., Worcester, Mass., and 2390 sq. yds. granite block pavt. to J. E. Weidner, Reading.

★**Baltimore, Md.**—Contracts for paving awarded by Bd. Awards as follows: 8 streets and 3 alleys in Northern Annex, and resurfacing Riverside Ave. with sheet asphalt to Baltimore Asphalt Block & Tile Co., at $37,507 and $7,635 respectively, and 14 streets in Northern Annex with asphalt to American Paving Co., at $64,535.

Baltimore, Md.—Bids desired until July 14 by State Roads Comn., 601 Garrett Bldg., Baltimore, for building 7 sections of State Highways aggregating 26.62 miles, advertised in Engineering Record.

Jacksonburg, W. Va.—Bids desired by County Clerk, New Martinsville, W. Va., until July 19, for grading or building of 25 miles of road in Grant Dist. in vicinity of Jacksonburg. L. E. Lantz, Chmn. of the Dist. Com., Jacksonburg, Bank of Jacksonburg.

Winston-Salem, N. C.—Citizens voted $50,000 bonds for street improvements.

Scotland Neck, N. C.—See "Water Works."

Clearwater, Fla.—See "Sewerage and Sewage Disposal."

★**Orange Park, Fla.**—Contract for constructing 16-ft. asphalt macadam road awarded by Town Comrs. to C. S. Young Constr. Co. at $1.25 per sq. yd.

★**Mobile, Ala.**—Contract for asphalt concrete surfacing awarded to F. C. Proudfoot, Chicago, Ill., at 66 cts. sq. yd. for 20,400 sq. yds. 4 in. concrete, and 70 cts. sq. yd. for 20,400 sq. yds. 2 in. wearing surface. Bids opened by Bd. City Comrs. June 15.

Newton, Miss.—Bids desired until July 13 by Highway Comn., Dist. No. 4, for improving about 22 miles highways. Bids desired for concrete, macadam, gravel and sand-clay. B. S. Snowden, Engr., Newton.

Okolona, Miss.—Bids desired until July 10 by Road Comrs. of 4th Superv. Dist., at office of Chancery Clk., Houston, for constructing 4 miles graded and graveled road. Tupelo Engr. Co., Engrs., Tupelo.

Bids desired until noon July 3 by Road Comn., 3d Superv. Dist., at office of R. J. West, Attorney, Okolona, for constructing approximately 9¼ miles graded and graveled roads.

Hammond, La.—Bids reported desired until July 14 by State Highway Dept., New Orleans, for graveling highways in Hammond, Tangipahoa Parish, in all 13 miles.

Ohio.—Bids desired until July 7 for grading, paving, constructing bridges, culverts, etc., following roads: Specifications on file with County Comrs., also at office of State Highway Dept., Columbus. All bids should be addressed to Jas. R. Marker, State Highway Comr., Columbus.

Lisbon, Columbia Co., brick Alliance-Salem Rd., Goshen and Butler Townships, 7400 ft.; cost $27,823.

Columbus, Franklin Co., brick Columbus-Marysville Rd., Perry and Clinton Townships, 11,005 ft.; cost, $57,482; also brick, Portsmouth-Columbus Rd., Marion Township, 2405 ft.; cost, $21,783.

Chardon, Geauga Co., concrete Scotland Station Rd., Chester Township, 1945 ft.

Kenton, Hardin Co., brick and concrete Roundhead-McGuffey Rd., Marion Township, 7205 ft.; cost, $20,950; also waterbound macadam, Sec. "F," Lima-Kenton and Marion-Kenton Rd., Pleasant Township, 15,840 ft.; cost, $26,508.

Logan, Hocking County, brick Logan-Lancaster Rd., Falls Township, 1092 ft.; cost, $3,120; also waterbound macadam Chillicothe-Logan Rd., Goodhope Township, length 8745 ft.; cost, $15,154.

Mt. Vernon, Knox Co., brick Mt. Vernon-Coshocton Rd., Clinton and Monroe Townships, length 5786 ft.; cost, $23,241.

Chillicothe, Ross Co., brick Columbus-Chillicothe Western Rd., Union Township, 5280 ft.; cost, $15,538; also concrete 3 roads, as follows: The Columbus-Chillicothe Western Rd., Union Township, 6800 ft.; cost, $15,533; Portsmouth-Columbus Rd., Scioto Township, 4363 ft.; cost, $8,368; Chillicothe-Portsmouth Rd., Scioto Township, 3150 ft.; cost, $6,994.

Eaton, Preble Co., surfaced treated macadam Sec. "D" Eaton-Richmond Rd., Washington and Jackson Townships, 26,-675 ft.; cost, $37,163.

Fremont, Sandusky Co., brick Sandusky-Clyde Rd., York Township, 12,080 ft.; cost, $50,549.

Tiffin, Seneca Co., waterbound macadam on 3 roads, as follows: West Center Rd., Bloom Township, 5370 ft.; cost, $4,312; East Center Rd., Bloom Township, 5765 ft.; cost, $5,020; Kilbourne Rd., Eden Township, 5200 ft.; cost, $4,786.

McArthur, Vinton Co., waterbound macadam, Sec. "A," Chillicothe-McArthur Rd., Elk Township, 14,800 ft.; cost, $8,895; also concrete Athens-McArthur Rd., Elk Township, 11,400 ft.; cost, $3,013.

Akron, Summit Co., brick Sec. 2, Akron-Kent Rd., Tallmadge Township, 9588 ft.; cost, $35,077.

Warren, Trumbull Co., concrete Niles-Ashtabula Rd., Mecca Township, 14,910 ft.; cost, $24,226; also brick Youngstown-Cleveland Rd., Warren Township, 11,350 ft.; cost, $40,363.

Marysville, Union Co., waterbound macadam Columbus-Marysville Rd., Jerome Township, 22,900 ft.; cost, $38,517.

Bryan, Williams Co., waterbound macadam Bryan-Defiance Rd., Pulaski Township, 5335.9 ft.; cost, $9,801.

Elyria, Lorain County, concrete Cleveland-Sandusky Rd., Brownhelm and Black River Townships, 29,675.8 ft.; cost, $68,417.

Troy, Miami County, concrete Sec. 2-C, Piqua-Troy Rd., Washington Township, 982.1 ft.; cost, $2,211.

Dayton, Montgomery County, 3 brick roads, as follows: Sec. "G," Dayton-Covington Rd., Harrison Township, 5660 ft.; cost, $25,717; Sec. "F," Dayton-Troy Road, Harrison Township, 10,760 ft.; cost, $42,032; Dayton-Greenville Rd., Harrison Township, 12,336 ft.; cost, $45,571.

Zanesville, Muskingum Co., brick and concrete, Sec. I, Zanesville and Otsego Rd., Washington Township, 6950 ft.; cost, $17,774; also concrete Zanesville-Dresden Rd., Falls Township, 8171 ft.; cost, $18,-398.

Port Clinton, Ottawa Co., waterbound macadam on 2 roads, Fremont-Port Clinton Rd., Bay Township, 12,700 ft.; cost, $18,844; also Oak Harbor-Geneva Rd., Benton, Harris and Clay Townships, 18,-820 ft.; cost, $31,389.

New Bloomfield, Perry Co., 2 waterbound macadam, McConnelsville-New Lexington Rd., Bearfield Township, 2645 ft.; cost, $4,897; also Sec. "K," Newark-New Lexington Rd., Reading Township, 6763 ft.; cost, $14,504.

Perrysburg, O.—Bids desired until July 22 by Village Clk. for paving a portion of Louisiana Ave. Geo. Champe, C. E., 610 The Nashby Bldg., Toledo.

★**Cincinnati, O.**—Contract for improving Camargo Pike awarded by County Comrs. to Geo. W. Rich, at $26,755.

★**Sandusky, O.**—Contract for paving with asphalt Adams, Meigs, Wayne and Van Buren Sts. awarded by Bd. Control to Andrews Asphalt Co., Hamilton, at $51,677.

Pioneer, O.—Bids desired by City Clerk until July 16 for 13,760 sq. yds. paving. Engineers, Smith & Boulay Co., Toledo.

★**Ruggles, O.**—Contract awarded June 24 to C. Maloy, Nova, for paving with macadam Ruggles Rd. at $19,730, and Eastern Rd. at $17,306. Elmer Shoemaker, Co. Clk.

Edon, O.—Bids desired until July 24 by Village Clerk for paving Michigan and Indiana Sts. Geo. Champe, Engr., Nasby Bldg., Toledo.

Cleveland, O.—Bids desired until July 8 by County Comrs., for improving Rockside Rd. W. A. Stinchomb, Co. Engr.

La Rue, O.—Bids desired July 29 by J. W. Campbell, Village Clk., for paving High, School, Front and Vine Sts. with asphalt block and vitr. brick on concrete foundation with cement curb; cost, $32,-000.

Columbus, O.—Bids desired until July 7 by State Highway Comr., Columbus, for grading and paving with brick 2 roads in Franklin Co., Portsmouth-Columbus Rd,. Marion Township. Length, 2405 ft. Cost, $21,783. Columbus-Marysville Rd., Perry and Clinton townships, length, 11,-005 ft.; cost, $57,482.

Bids desired until July 23 by County Comrs., Columbus, for constructing Columbus and Delaware Rd., Village of Worthington, 3154 ft. in length; improving and macadamizing Haughn Rd., Jackson Township, 3.19 miles.

★Contract awarded June 16 by Dir. Pub. Service for grading, curbing and repaving with asphalt or wood block on High St. to Cleveland Trinidad Paving Co., Cleveland, at $105,000. Henry Maetzel, City Engr.

Bids desired until July 14 by Director Pub. Service for improving Chase Alley, 11th, 9th and 1st Aves., Glen Echo Drive and Hudson St. Work to include grading, draining, paving with asphalt or brick and laying water service pipe.

Lorain, O.—Bids desired until July 15 by Director Pub. Service for grading, draining, curbing and paving with vitr. brick, sheet asphalt or block asphalt E. 28th and E. 31st Sts., requiring approximately 30,500 sq. yd. surfacing. C. M. Osborn, City Engr.

Indiana.—Bids desired by County Comrs. for constructing roads as follows:

Until July 7:

Washington—Roads in Washington, Harrison and Elmore townships.

Rushville—Macadam road in Center Township.

Bedford—Roads in Guthrie and Shawmut townships.

Until July 9:

Frankfort—11 gravel roads.

South Bend, Ind.—Citizens voted to construct 16-mile road across St. Joseph County as part of Lincoln Highway; cost, $190,000.

★**Ft. Wayne, Ind.**—Contract for paving with tarvia 9096 ft. Reed Rd. and 15,268 ft. of Lunz Rd. awarded by County Comrs. June 24 to J. C. O'Connor & Sons, at $13,950 and $24,295, respectively.

★**Frankfort, Ind.**—Contract awarded for improving Armstrong St. to Wm. Coin, Frankfort, as follows: 42,815 sq. ft. cement walk 8 cts.; 7335 lin. ft. cement curb 22 cts.; 402 lin. ft. cement circle curb 30 cts.; 3925 lin. ft. tile 10 to 24-in. 37 cts. to $1.12; 33 catch basins, ea., $17.50; 10 manholes, ea., $25.50; 1500 cu. yds. excav., 20 cts.; 14,460 sq. yds. reinforced concrete $1.25; other work (lump sum) $355; total, $27,611. Other bids: Lawrence & Sheridan, Indianapolis, $37,146; Willis M. Hauser, Chicago, Ill., $37,249; Nees & Seaman, Frankfort, $30,771.

★Contract for improving E. South St. awarded to J. J. Kelleher & Co., Frankfort, as follows: 3310 sq. ft. cement sidewalk 8 cts.; 3390 lin. ft. cement curb 19 cts.; 265 lin. ft. cement circle curb 23 cts.; 373 lin. ft. Marginal curb 15 cts.; 160 lin. ft. 10-in. vitr. pipe 30 cts.; 160 lin. ft. 12-in. 36 cts.; 640 lin. ft. 15-in. 46 cts.; 970 lin. ft. 18-in., 60 cts.; 8 catch basins, ea., $13; 5 manholes, ea., $16; 1 cu. yd. extra concrete $4; 5735 sq. yds. Danville wire-cut-lug brick $1.68; total, $11,827.

★Items marked thus give the names of parties awarded contracts.

Peru, Ind.—Bids opened June 23 by Common Council for paving Main St. (a) asphalt; (b) brick: Western Constr. Co., Lafayette (a), $78,799; Kokomo Asphalt Co., Kokomo (a), $82,835; Ranhert & Egleston, Mishawaka (a), $83,086; Foulkes Contr. Co., Terre Haute (b), $75,492; Mike Burke, Peru (b), $78,896; Tripeer & Son, Peru (b), $78,322. Pleasant Bell, Jr., City Clk.

Columbus, Ind.—Treasurer Bartholomew County sold $10,640 gravel road bonds.

★**Marshall, Mich.**—Contract for paving East and West State Sts. (bids opened June 18) awarded to Andrews Asphalt Paving Co., Hamilton, on sheet asphalt, at $56,090. Engineers, Smith & Boulay Co., Toledo, O.

Illinois.—Bids desired until July 15 by State Highway Comn., Springfield, for State Aid work in counties as follows—all cement to be furnished by State. (Type of construction, concrete.) A. N. Johnson, State Highway Engr.:

Counties	Route	Length, ft.	Cost
Cass	5	3,300	$4,666.37
Menard	7	3,300	4,138.63
Crawford	6	2,700	5,665.50
Kane	1	16,274	34,756.00

★**Edwardsville, Ill.**—Contract for rebuilding 6600 ft. St. Louis Rd. west Edwardsville awarded by Township Highway Comrs. to Dunlap-Dippold Constr. Co., Edwardsville, at $14,249.

★**Park Ridge, Ill.**—Contract awarded June 15 for 8342 sq. yds. asphaltic concrete pavement to Standard Paving Co., 29 S. La Salle St., Chicago, at $17,911. A. W. Lorenz, Secy. Bd. Local Improv.

★**Rockford, Ill.**—Contract for macadamizing N. 2d St. awarded by Bd. Local Improvements to A. E. Rutledge, Rockford, at $12,221.

Bids desired by Pres. Bd. Local Improv. until July 9 for paving with brick portions of S. Main St., 14,277 sq. yds., advertised in Engineering Record.

Chicago, Ill.—Cook County highways improved this year under state aid are to be of concrete, the commissioners having made the choice June 22. About 21 miles will be constructed. Specifications for contracts will be available for bidders in a short time. Marquette cement will be used under the contract with State Highway Comn. Geo. A. Quinlan, County Supt. of Highways.

Reedsburg, Wis.—Bids desired until 7.30 p. m., July 6, by City Clerk for constructing brick pavement on Pine and 2d Sts.; also 15 ft. central brick block pavement with retainers on North Ave. and Myrtle St.

★**Stanley, Wis.**—Contract awarded June 15 for paving 3d St. with brick to La Crosse Stone Co., La Crosse, at $11,740. John Villmar, Secy. Bd. Pub. Wks.

Watertown, Wis.—Bids for paving N. 2d St. with reinforced concrete, will be received by Bd. Pub. Wks. until July 17, advertised in Engineering Record.

★**Des Moines, Ia.**—Lowest bid opened by City Council for paving with concrete E. 14th St. awarded to F. F. Balzer, at $1.59½ per sq. yd.

Bids desired until July 8 by City Clerk for improving Dean St. by paving with either Warren Bros. bitulithic or Portland cement concrete pavt., about 5985 sq. yd.

Manning, Ia.—Bids reported desired until July 6 by City Clerk for 24,000 sq. yds. paving and 6600 lin. ft. artificial stone curbing; alternate bids to be submitted on creosoted wood blocks, concrete, brick or asphalt concrete paving. P. A. Edquist, Engr., Omaha Natl. Bank Bldg., Omaha, Neb.

Mason City, Ia.—Bids desired until 10 a. m. July 6 by City Council for approximately 26,700 sq. yds. paving and 14,300 lin. ft. cement curb. Bids desired on Trinidad Lake pitch asphalt, Bermudez pitch lake asphalt, No. 1 brick paving block, or cement concrete pavt.

Duluth, Minn.—Bids desired July 6 for paving St. Croix Ave. and Stutphin St. and constructing storm water and sanitary sewers in same. Prices asked on sandstone, brick, creosote block and concrete paving, 10,000 sq. yds.; total cost, $40,000. R. Murchison, Comr. Pub. Wks.

Ivanhoe, Minn.—Bids desired until July 11 by County Auditor at Ivanhoe for constructing State Rural Highway No. 54, including grading 49,686 lin. ft. turnpiking, 41,216 cu. yds. earth excav., 18 miles construction dragging, cost $11,264; culverts and bridges estimated to cost $5,802; 15,085 cu. yds. gravel surfacing, estimated cost $17,487.

★**Salina, Kan.**—Contract for about 18,711 sq. yds. brick pavement on Highland Ave. awarded by City Council to Watts & Amerman, Salina, at $1.72 per sq. yd. Bids opened June 15.

Fredonia, Kan.—See "Sewerage and Sewage Disposal."

★**Grand Forks, N. D.**—Contract for 7 miles curbing, 7000 ft. drain pipe, 60 manholes and catch basins on University Ave. awarded by City Council to Robinson & Van Alstine, Grand Forks, at $12,389.

Billings, Mont.—City Council voted to pave First Ave. N. and other streets; cost, about $70,000.

Anaconda, Mont.—City Council voted to construct concrete pavement in business district; cost about $55,000.

Lonoke, Ark.—Bids opened as follows June 20 by Bd. Comrs., Road Dist. No. 7, for constructing 11 miles macadam highway: T. H. Bench, $39,724; W. C. Jucksch, $41,926; Woodsmall Bros., $48,450; McCarty & Play, $49,602; J. L. Richi, $50,768; Droper & Co., $59,602 (bidders all of Little Rock).

★**Houston, Tex.**—Contracts for paving awarded as follows: Rusk Ave. to Eureka Constr. Co., $29,767; Congress Ave., with rock asphalt, to Uvalde Rock Asphalt Co., at $25,493, and Wood Ave., to Talbot Co. at $39,000.

★**Belton, Tex.**—Contract for about 90 miles road and culvert construction in Road Dist. No. 5 awarded by County Comrs. to W. T. Montgomery & Co., San Antonio, at $255,347. Bids opened June 15.

Ennis, Tex.—See "Public Buildings."

Waco, Tex.—Totals of bids opened June 15 by County Comrs. for 5 separate road, bridge and culvert contracts in Road Dist. 2: Ockander Bros., Waco, $197,381; L. H. Pritchett, Waco, $94,605; Flanagan Bros., Waco, $129,448; McCall-Moore Eng. Co., Waco, $80,226; Richard Mooey, St. Louis, $302,609. Contract will include approximately 185 miles construction as follows: Brick, 1½ miles; concrete, 2½ miles; bituminous macadam, 70 miles; waterbound macadam, oiled surface, 18 miles; gravel, 81 miles; sand-clay, 12 miles. Bridge and culvert contracts will include steel I-beams encased in concrete, reinforced concrete boxes, corrugated pipe and vitr. pipe. Bonds to the extent of $1,075,000 have been sold for this improvement. R. J. Windrow, Co. Engr.

Denver, Colo.—Bids desired until July 11 by State Highway Comr. for grading and surfacing with gravel about 2 miles road.

Poteau, Okla.—Citizens voted $10,000 bonds for constructing roads. Engrs., Mullergren & Patten, Poteau.

South Bend, Wash.—City Council voted to pave Water and Pennsylvania Sts.

Spokane, Wash.—Plans completed by City Engineer for grading, curbing and constructing sidewalks on Glass Ave. covering area of 74,000 sq. ft.

★**Walla Walla, Wash.**—Contract for constructing Permanent Highway No. 6 awarded to Henry Benzell, at $14,980.

Bellingham, Wash.—Lowest bids opened for June 22 for paving business streets submitted as follows: C. G. Burnett, Bellingham, with asphalt, $74,000; K. Sausett, with Rocmac, $68,964; Washington Paving Co., with Warrenite, $83,000.

Seattle, Wash.—Lowest bid opened by Bd. Pub. Wks. June 12 for constructing concrete sidewalks on 1st Ave. submitted by Johnson & Co. at $12,960.

Plans completed by County Engineer Denton for constructing following roads: Grading and graveling 5 miles of Permanent Highway No. 7; 14 miles road around Mercer Island in Lake Washington, and road from Franklin to Renton, via Maple Valley.

★Contract for grading and graveling Des Moines-Pierce County Line Rd. awarded to Matsen & Carlsen, 17th Ave. N. and Cheyenne St., at $64,399.

Bids reported desired until July 14 by County Comrs. for constructing C. L. Morris, Bethel-Snohomish and Mess Bros. Rd.

★Contract for paving with brick on concrete base Permanent Highway No. 3 awarded to John Contr. Co., Pioneer Bldg., at $115,000.

Plans approved by Bd. Pub. Wks. for paving 6th and 7th Aves.; cost $70,000; grading and bridging Fairview Ave.; cost $20,000.

★Contract for paving 4 miles Pacific Highway from Auburn to Pierce County Line awarded by Bd. County Comrs. to Jahn Contr. Co., Seattle, at $121,761 for brick block.

Bids desired until July 20 by County Comrs. for constructing permanent Highway No. 6 and John Pech Highway No. 5.

★Contract for constructing Derby Woodenville Rd. awarded by King County Comrs. to Paul Puay, at $11,666.

Late reports state that contract recently let for Permanent Highway No. 5, at a cost of $35,000, may be rescinded.

★**Lebanon, Ore.**—Contract for 10,200 sq. yds. 6-in. concrete pavement on Grant and Lebanon Sts. awarded to G. T. Morgan, 716 Broadway Bldg., Portland.

Linnton, Ore.—Plans completed by C. W. Woodruff, Henry Bldg., Portland, for constructing macadam road, grading and constructing sidewalks about 6000 yds.

Dayton, Ore.—See "Sewerage and Sewage Disposal."

San José, Cal.—Plans being prepared for improvement of Meridian and Dry Creek Rd., from Stevens Creek Rd. to Johnson Ave.; also Lincoln Ave., from Park Ave. to Almaden Rd. J. G. McMillan, County Surveyor.

Pomona, Cal.—Bids reported desired until July 13 by City Clerk, for paving Lordsburg Rd., E. Holt Ave. and several other streets, aggregating 1,365,271 sq. ft. concrete pavt., etc.

Lehi, Utah.—Bids desired until July 14 by City Recorder for constructing approximately 2½ miles cement sidewalk in Paving Dist. 2.

Beaver City, Utah.—Bids reported desired until 6 p. m. July 6 for constructing 22,000 sq. ft. concrete sidewalk in Dist. No. 6. H. Ashworth, City Recorder.

Logan, Utah.—Bids desired until July 13 by City Recorder for constructing 85,000 sq. ft. concrete sidewalks, 4000 sq. ft. concrete street crossings, etc., in Sidewalk Dist. 22.

★**Wallace, Idaho.**—Contract for bitulithic pavement in Improv. Dist. No. 2 awarded to Warren Constr. Co., at $26,727.

Downey, Idaho.—Citizens voted June 23 to issue $15,000 bonds for paving. Engineer not yet selected. A. B. Perkins, Village Clk.

★**St. Maries, Idaho.**—Contract awarded June 13 for macadamizing Main St. and College Ave. to the Two Miracle Concrete Cor., Great Falls, Mont., at the following bid: 22,815 cu. yds. excav. (unclassified), 25 cts.; 18,242 lin. ft. concrete curb and gutter, 75 cts.; 9940 lin. ft. board walks, to remove and replace, 10 cts.; 3240 lin. ft. new board crosswalks, 40 cts.; 1288 lin. ft. 8-in. galv. corrugated iron cross drains, 75 cts.; 408 cu. yds. dry stone retaining walls, $4; 420 cu. yds. concrete retaining walls, $15; 1640 lin. ft. wood wire water pipe, to lower, 30 cts.; 9 catchbasins, ea. $48; 15 sewer manholes, to adjust, ea. $5; 41,000 sq. yds. clay bound macadam, 6-in., 50 cts.; 500 lin. ft. 8-in. sewer pipe, to lay, 55 cts.; 410 lin. ft. 15-in., 95 cts.; 90 tel. and elec. light poles, to move; ea. $5; total $53,769. J. B. Sargeant, City Engr.

Toronto, Ont.—Bids desired until July 7 by Chairman Bd. Control, for paving with asphalt portions of Bracondale Ave., Walmsley Boule., Chatham and 5 other streets, and with asphaltic concrete, Oriole Pwky.; also constructing concrete walks on portions of Ashbridge and Danforth Aves. and a number of other streets.

Welland, Ont.—Bids desired until July 9 by Town Clerk, for approximately 6200 sq. yds. pavt. Bids desired on vitr. brick, reinforced concrete, sheet asphalt, creosoted wood block or bitulithic pavt.

Edmonton, Alta.—City Council voted to construct 100,000 sq. yd. asphalt pavement.

Revelstoke, B. C.—City Council voted to construct concrete sidewalks; cost, $15,000.

STREET CLEANING AND GARBAGE DISPOSAL.

Items Arranged Geographically

Albany, N. Y.—Bids desired until July 6 by Bd. Contract and Supply for collection, removal and disposal of garbage for a period of 1 year beginning Sept. 1, 1914 in all that section of city bounded on east by river, north by north city line, west by east line of S. Pearl St., the east line of N. Pearl St. from State to Tivoli Sts., Shaker Rd. and Rensselaer Ave.

Marble Falls, Tex.—This city considering construction of garbage disposal plant.

Toronto, Ont.—Bids reported desired until July 14 by Bd. Control for furnishing 2 5-ton electric chassis equipped with steel riveted tanks of 1200 imperial gals. capacity, with sprinkling and flushing apparatus complete.

HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

Items Arranged Geographically

Dredging—Boston, Mass.—Bids desired until July 7 by Bd. Harbor and Land Comrs., Boston, for furnishing and placing about 1600 tons stone riprap on west bank of Connecticut River in Agawam; removing boulders and dredging about 14,000 cu. yds. material to secure a channel and basin about 600 ft. long and 13 ft. deep in mean low water in Rockport Harbor.

Pier—New Bedford, Mass.—The Governor has signed the bill providing for the erection of a pier, to be constructed under the direction of the Harbor and Land Comn.

Breakwater—Dennis, Mass.—Bids desired until July 14 by Bd. Harbor & Land Comrs., State House, Boston, for building a pile and timber breakwater, about 825 ft. long, at Nobscussett Point, Dennis, advertised in Engineering Record. Wm. F. Williams, Ch. Engr.

River and Land Borings—New York, N. Y.—Bids desired until July 10 by Public Service Comn. for First Dist., 154 Nassau St., New York, N. Y., for making certain land and river borings preliminary to work of rapid transit railroad construction in Boroughs of Manhattan, Brooklyn, Queens and Bronx, in East River, advertised in Engineering Record.

Flood Prevention—Rochester, N. Y.—Common Council has passed flood prevention ordinance, providing for deepening river bed approximately 4 ft. from bunk of upper falls to a point just below Court St. dam.

Dam, Etc.—Gilbertsville, N. Y.—Bids desired until July 15 by Jos. T. Gilbert, Esq., Gilbertsville, for constructing an earth dam, diversion channel and pipe lines, advertised in Engineering Record. Vrooman & Perry, Engrs., Gloversville.

★**Trestles, Etc., for Dam—Wheeling, W. Va.**—Contract awarded June 18 by Maj. J. P. Jervey, Corps Engrs., U. S. A., for furnishing and delivering Poiree trestles and recess and engine pit covers for Dams 19 and 28, Ohio River, to Penn Bridge Co., Beaver Falls, Pa., as follows: 129,200 lb. metal work at Dam 19, 22 cts.; 223,800 lb. metal work at Dam 28, 26.5 cts.; total, $8,773. Totals of other bids: American Bridge Co. of New York, Pittsburgh, Pa., $9,455; King Bridge Co., Cleveland, O., $10,085; W. N. Kratzer & Co., Pittsburgh, Pa., $9,561; Union Foundry & Machine Co., Pittsburgh, Pa., $10,189; Henry Vogt Machine Co., Inc., Louisville, Ky., $12,666; J. E. Moss Iron Works, Wheeling, $15,002.

★**Levee—Augusta, Ga.**—Contract reported awarded by River and Canal Comn. June 18 for building levee between 6th St. and East Boundary to A. J. Twiggs & Sons; cost about $65,000.

★**Wharf — Savannah, Ga.** — Contract awarded June 19 for constructing city wharf to Beasley Contr. Co., Savannah, at $7,852.

Drainage—Miami, Fla.—The Internal Improvemetn Board at Tallahassee is reported to be negotiating for sale of the first $1,500,000 bonds to finish drainage work under way. Work to be resumed on Miami Canal; also on St. Lucie Canal. F. C. Elliott, State Engr., Tallahassee.

★**Drainage Ditch—Senatobia, Miss.**—Contracts reported awarded June 20 by Bd. Senatobia Creek Drainage Dist. for excavating approximately 100,000 cu. yds. for said Dist.; 2 channels about 12 miles, 16-ft. top and 4-ft. bottom, 4 to 8 ft. deep, with 8-ft. berm, to A. C. Miller, Walnut Ridge, at $15,000.

Dredging—New Orleans, La.—Bids desired until July 20 by Bd. Comrs. Port New Orleans, for dredging in Mississippi River, filling clearing site for cotton warehouses and terminal facilities, between Mississippi River and Leake Ave. and betwen Napoleon Ave. and Soniat St., advertised in Engineering Record. Ford, Bacon & Davis, Engrs., 921 Canal St.

★**Levee—New Orleans, La.**—Contract for constructing riverside enlargement in Chicot County, Ark., Mississippi River right bank, awarded as follows: Whiskey Chute Levee, 65,000 cu. yds. earth work to R. L. Leonard, Memphis, Tenn., at 37 cts. per cu. yd. and to H. T. Van Fossen, Brunett, for Veaucluse Levee, 130,000 cu. yds. earth work, at 19.9 cts. per cu. yd.

★**Dam—New Orleans, La.**—Contract awarded June 22 by U. S. Engineer, Custom House, for constructing spillway dam complete, at Schooner Bayou, La., to N. G. Scott, New Orleans, at $8,500.

Retaining Wall—Indianapolis, Ind.—City Council passed ordinance, authorizing City Controller to issue $45,000 bonds to pay part of cost of constructing retaining wall along Fall Creek from College Ave. to 30th St.

★**Pier—Chicago, Ill.**—Contract reported awarded June 29 to E. L. Scheidenhelm for superstructure of Municipal pier at $1,091,800 (bids opened May 2 by the Harbor Comn.).

Channel—Chicago, Ill.—Bids were opened as follows June 25 by Sanitary Dist. of Chicago, 910 S. Michigan Ave., for excavation and collateral work on Sect. 1, Calumet-Sag Channel—(a) McMillan Contr. Co., Chicago, $546,370; (b) Oscar Daniels Co., Chicago, (2 bids) $560,045 and $670,295 (second figure, alternate on rock excav.); (c) Albert H. Prange, Grand Rapids, Mich., $570,955; (d) James O. Heyworth, Chicago, $571,008; Newkirk & Powers Constr. Co., Joliet, $591,167; M. Hayes & Sons, Janesville, Wis., $605,930; Alex. N. Todd, Chicago, $639,835; Mason & Hanger Co., Richmond, Ky., $666,725; Great Lakes Dredge & Dock Co., Chicago, $699,090; Winston Bros. Co., Minneapolis, Minn., $732,180, and Byrne Bros. Dredging & Eng. Co., Chicago, (2 bids) $787,495 and $929,245.

Unit prices of 4 lowest bids, (a), (b), (c), (d):

Excavation:	(a)	(b)	(c)	(d)
265,000 cu. yds. glacial drift	$0.245	$0.312	$0.28	$0.30
55,000 cu. yds. glacial drift at railroads	.35	.40	.34	.30
315,000 cu. yds. solid rock	.65	.65	.70	.71
13,000 cu. yds. solid rock at railroads	1.00	.95	1.00	.80
270,000 sq. ft. channelling	.28	.28	.30	.33
500 sq. yds. riprap slope	1.00	1.00	1.00	1.75
570 lin. ft. roadway construction	3.50	2.00	1.50	1.90
550 cu. yds. concrete No. 1	8.00	7.50	9.00	6.00
19,000 cu. yds. concrete No. 2	5.10	5.00	5.20	4.80
9,500 cu. yds. concrete at railroads	6.20	6.00	5.50	4.80
80,000 lbs. metal reinforcing	.03	.03	.04	.06
Erection of Archer Road Bridge (lump sum)	3,750.00	2,500.00	3,000.00	5,000.00

★*Items marked thus give the names of parties awarded contracts.*

Levee Work—Pekin, Ill.—Bids desired until July 24 by Comrs. Spring Lake Drainage and Levee Dist., at office of J. M. Powers, attorney, Pekin, for constructing a marine railway for transferring boats across Drainage Dist. levee, including foundations, tracks, structural steel work, and gasoline engine driven power plant; girder draw bridge and an I-beam highway bridge; short piling spillway with brush and rock approach, advertised in Engineering Record. Harman Eng. Co., Engrs., Peoria.

Drain—Ft. Dodge, Ia.—Bids desired by County Auditor for constructing Tile Drain 191, advertised in Engineering Record.

★**Ditch—Webster City, Ia.**—Contract reported awarded to J. A. Dunkle, Webster City, by Supervisors of Hamilton and Story Counties for constructing ditch at $49,995.

Drain—Boone, Ia.—Bids desired until July 11 at Boone State Bank for constructing Mutual Tile Drain, Harrison Township, about 30,000 ft. in length. Engineer's estimate, $12,065.

Ditch—Aitkin, Minn.—Bids reported desired until July 6 by County Aud., for constructing Ditches 27 and 28. Cost about $59,917 and $110,981 respectively.

Structural Steel and C. I. Sluice and Regulator Gates—Great Falls, Mont.—Bids desired until Aug. 4 by U. S. Reclamation Service, Great Falls, Mont., for furnishing structural steel and c. i. sluice and regulator gates, gate frames, gate stands and accessories for projects in the Northern Division, advertised in Engineering Record.

Irrigation Work—Denver, Colo.—Bids desired until July 30 by U. S. Reclamation Service, 519 Commonwealth Bldg., Denver, for constructing approximately 1750 lin. ft. 60-in., 3560 lin. ft. 32-in. and 2406 lin. ft. 24-in. continuous wood-stave pipe for the Belle Fourche Project, S. D., Uncompahgre Valley Project, Colo., and the North Platte Project, Neb., respectively, advertised in Engineering Record.

★**Wharf, Freight Shed, etc., Seattle, Wash.**—Contract for constructing wharf and freight shed at foot of Hanford St., awarded to A. S. Peterson, 4311 Whitman Ave. by Port of Seattle Comn. at $78,235. Contract for foundations for $500,000 grain elevator in East Waterway improvement, awarded to W. T. Butler Contr. Co., Central Bldg., at $25,180.

Drainage—Eugene, Ore.—R. B. Hunt reported to be making surveys for new drainage district in the Long Tom area, west of Eugene, embracing 100,000 acres; cost about $500,000.

Drydock—San Francisco, Cal.—Union Iron Works reported to be completing working drawings for construction of $750,000 drydock.

Stockton, Cal.—South San Joaquin Irrigation Dist. has authorized a special assessment to raise $140,000 to complete the irrigation system.

Irrigation Work — Boise, Idaho — See "Bridges."

Irrigation—Boise, Idaho.—Little Willow Creek Irrigation Co., reported to have applied for right of way over government land for constructing pipe line, canals and reservoir, for an extension to irrigation system.

Dredging—Ottawa, Ont.—Bids desired until July 14 by Secretary Dept. Pub. Wks., Ottawa, Ont., for dredging at Kincardine, Bruce Mines, Port Hope, or Little Detroit.

Drydock, North Vancouver, B. C.—It is reported that contract will soon be let by Dominion Shipbuilding & Eng. Co. for bridge work, dredging, etc., in connection with construction of a $2,000,000 drydock.

POWER PLANTS, GAS AND ELECTRICITY.

Items Arranged Geographically

Seattle, Wash.—The State Supreme Court has validated the bonds voted last year in the sum of $425,000 for constructing a steam auxiliary power plant for city on Lake Union, and work will now proceed.

New Brighton, S. I., N. Y.—Bids desired until July 8 (readvertisement) by Comr. Water Supply, Gas and Electricity, New York City, to furnish, deliver and erect electric transmission lines in Southfield Boule., Boro. Richmond. Security, $7,000.

★**Montgomery, N. Y.**—Contract awarded to Ambursen Co., 61 Bway., New York, by Wm. Crabtree & Sons, manufacturers of worsted yarns, for construction of a dam, 10 ft. high and 240 ft. long, for supplying power to its mills.

Camden, N. J.—Street Com. of City Council and the representatives of Public Service Cor. has finally agreed upon an ordinance to lay underground conduits for all wires of Public Service Cor. In proposed ordinance it is provided that Public Service Cor. shall spend $25,000 annually for at least 10 years toward burying its wires. It was said the first year's work will cost the company at least $40,000.

Newark, N. J.—See "Electric Railways."

South Boston, Va.—Plant of South Boston Electric Light & Power Co. reported destroyed by fire.

Prosperity, S. C.—J. B. McCrary Co., Atlanta, Ga., preparing plans for municipal electric light plant.

Quitman, Ga.—City contemplating issue of $40,000 bonds to improve light plant. A. W. Voight, City Clk. and Treas.

Milledgeville, Ga.—The Oconee River Mills is reported to be planning a hydroelectric plant, to be constructed on site formerly occupied by milling department.

Burkesville, Ky.—A franchise has been granted to Geo. H. Greenup and others, of Elizabethtown, to install and operate an electric light plant and waterworks.

Upper Sandusky, O.—Council passed ordinance providing for issue of $25,000 bonds for electric light plant.

Norwalk, O.—Citizens voted $120,000 bonds to construct municipal electric light plant.

Warren, O.—Trumbull Pub. Ser. Co. reported planning to increase output of its steam generating plant, to consist of a 3000-kw. steam turbine, 600 hp. or 700 hp. in additional boilers, new feed-water heaters, rearrangements of high-tension transmission line and building of substations.

Knox, Ind.—Public Service Comn. has authorized Thos. A. Frist, owner of Knox Electric & Power Co., Knox, to borrow $25,000 to improve plant.

Denison, Ia.—Plans being prepared by J. B. Hill, Iowa City, for municipal electric light plant.

Lorimor, Ia.—Council has granted Gilbert Johnson, Osceola, franchise to construct and operate electric light plant.

Bagley, Minn.—City Council has engaged J. F. Druar, Commercial Building, St. Paul, to prepare plans for rebuilding municipal electric light plant.

Larned, Kan.—See "Water Works."

Ann-Carr, Neb.—Niobrara El. Light, Power & Railway Co. incorporated with a capital of $300,000 to do a general light and power business and operate a railroad. Hugh O'Neill, Pres.; Carl W. Grant, Secy.

Casper, Wyo.—American District Steam Co., North Tonawanda, N. Y., completing arrangements for installation of a heating system of underground steam mains for Natrona County Electric Co., which will serve steam to buildings along route of mains by Sept. 1.

Ft. Smith, Ark.—City Comrs. will secure services of an engineer to prepare estimates of cost of installing municipal light plant in connection with water works.

Marble Falls, Tex.—This city has in contemplation erection of water power, water works and electric light system. Power proposed to be derived from Colorado River, using 120 cu. ft. per second of time in driving this power plant, with a 10-ft. head. R. E. Johnson, Mayor.

Childress, Tex.—The city electric light and ice plant reported destroyed by fire.

Loveland, Colo.—Plans have been prepared by Great Western Land, Granite, Light, Power & Mfg. Co. for a pipe line to cost $8,000.

White Salmon, Wash.—It is reported that Northwestern Electric Co. will construct power house on White Salmon River, 12 miles from here.

Astoria, Wash.—Arrangements being made by Northwestern Electric Co., Portland, for construction of a hydroelectric plant on White Salmon River, 12 miles from Astoria.

Wenatchee, Wash.—Cashmere Water Power Co. reported to have secured franchise to operate over county roads, and will establish substations here and at Leavenworth.

Aumsville, Ore.—Work will soon begin on construction of an electric light and power plant for Aumsville Flour Mill Co., which will furnish electricity for lamps and motors in Aumsville and surrounding territory.

Tillamook, Ore.—F. D. Small and D. C. Urie reported to have secured franchise to operate power and light plant; cost $30,000.

★**Mapleton, Ore.**—Contract for construction of a hydroelectric plant near Mapleton has been awarded by Richard Clough to C. A. Elkins and Frank Shelley, of Eugene.

Tillamook, Ore.—City Council granted franchise to F. D. Small and D. C. Urie to install an electric light plant.

★**Eugene, Ore.** — Contract reported awarded to Richard Clow, to construct a hydroelectric power plant for G. A. Elkins and Frank Shelly, of Eugene.

Lewiston, Idaho.—Committee appointed by City Council to investigate proposition to construct dam for power and water purposes on Clearwater River, have reported favorably on proposition.

Victor, Idaho.—A committee has been appointed by City Council to investigate feasibility of establishing municipal electric light plant.

Fairbanks, Alaska.—Plans being considered by John L. Timmins, John H. Hughes and others, of Fairbanks, for construction of a hydroelectric power plant on Totatlanika River, 60 miles from Fairbanks. Proposed plant will have an output of 10,000 hp. and will furnish electricity for mining region of Central Alaska.

Manila, P. I.—The Manila Power Co., of Hartford, reported formed by Wm. Waldo Hyde, Alvan Waldo Hyde and Arthur L. Shipman, all of Hartford, with a capital of $1,000,000, for transmission of electricity in the Philippine Islands for light, heat and power, as well as gas, water, refrigerating and bottling plants.

ELECTRIC RAILWAYS.

Items Arranged Geographically

Limestone, Me.—Surveys being made for a 9-mile electric railway between Caribou and Limestone. Geo. Cook Caribou, said to be interested.

Brockton, Mass.—Plans being considered by Chamber Commerce and representatives from Bd. Trade from South Weymouth, Pond Plain, West Abington and and Abington to build electric railway through these towns. Among those interested: Wm. S. O'Brien, Abington, and Arthur Andrews, Brockton.

New York, N. Y.—Bids desired until July 24 by Public Service Comn. for First Dist., 154 Nassau St., New York, N. Y., for constructing Sect. No. 5 of Routes Nos. 4 and 36, a part of the Bway., 4th Ave. subway, advertised in Engineering Record.

New York, N. Y.—See "Hydraulic Construction and River Improvements."

Brooklyn, N. Y.—See "Public Buildings and Schools."

Newark, N. J.—Arrangements being made by Public Service Electric Co. for construction of power house at Point-no-Point on the Passaic River to be used for development of 200,000-hp to supply Essex County; cost about $2,000,000.

Lebanon, Pa.—Ephrata & Lebanon Street Ry. Co. chartered to build electric railway between Lebanon and Ephrata. Capital, $34,000. Incorporators: C. O. Collett, C. D. Siegel, Chas. D. Lawrence.

New Oxford, Pa.—Arrangements being made by Hanover & McSherrystown Street Ry. Co. to award contracts for building proposed line from Conewago Chapel to New Oxford, distance about 4 miles.

Wilmington, N. C.—Plans being made by Wilmington Carolina Beach Ry. Co. to build 15-mile electric line to connect Wilmington, Carolina and Wilmington beaches. Geo. F. Meares, Wilmington, is interested.

Ann Carr, Neb.—See "Power Plants."

Benicia, Cal.—Surveys completed and construction will soon begin on electric line between Vallejo and Benicia. J. R. Cunnyngham, Benicia, is interested.

RAILROADS.

Items Arranged Geographically

Albany, N. Y.—Engineers from Delaware & Hudson Co., and from the State Engineers' office, have been making preliminary surveys and estimates of cost of constructing viaduct over main line of company at old Shaker Road crossing, just north of new plant in Colonie, for elimination of grade crossings.

Roanoke, Va.—Norfolk & Western Ry. Co. (J. E. Crawford, Ch. Eng., Roanoke), has in contemplation the extension of several of its passing sidings at an estimated cost of about $51,000.

Savannah, Tenn.—Citizens of Hardin County voted $240,000 bonds to assist in building the proposed Nashville to Corinth Railroad.

Cleveland, O.—At a cost of nearly $3,000,000 elimination of West Side grade crossings of the Nickel Plate Road from Fulton Road S. W. to W. 96th St. is soon to proceed. An ordinance is to be introduced in City Council authorizing expenditure of $712,000 of the city's share of cost of work.

Topeka, Kan.—Col. Chas. C. Godman, Ft. Smith, Ark., reported interested in organization of a new north and south line for State of Kansas, which has been granted a state charter. The proposed road runs from Washington and Concordia through counties of Sedgwick, Harvey, Martin, Dickinson, Saline, McPherson, Ottawa, Cloud, Clay, Republic and Washington, a distance of 200 miles.

Jefferson City, Mo.—The State Public Service Comn. has authorized the Terminal Railroad Assoc., St. Louis, to issue $1,000,000 bonds to be used for improvements.

Ft. Smith, Ark.—Walter Womble, reported interested in constructing a railroad between Mena and Hot Springs; surveys of proposed route have been completed.

San Antonio, Tex.—Missouri, Kansas & Texas Ry. Co. (A. M. Acheson, Ch. Engr., Dallas) has completed surveys for right-of-way to site of Katy terminals on S. Flores St., and the railroad company is ready to begin construction as soon as Chamber of Commerce Com. secures right-of-way from property owners.

Alpine, Tex.—Press reports state that the Orient Railroad from Alpine, Tex., to Rio Grande Crossing, 6 miles from Presidio, will be constructed this summer. The reorganized company, which takes charge of the road at the receivership sale on July 6, plans immediate extensions.

Toronto, Ont.—Cost of a subway beneath Grand Trunk tracks at Main St., East Toronto, would be $267,750, according to a report of City Commissioner Harris to Com. on Works. This includes estimated land damages of $60,000. The Comr. recommends application to Dominion Ry. Bd. for its construction, and an apportionment of cost.

PUBLIC BUILDINGS AND SCHOOLS.

Items Arranged Geographically

Millinocker, Me.—Bids desired until July 6 by School Bldg. Comn., for furnishing material and erecting brick school in town of Millinocker, including heating, plumbing and electric wiring. Harry S. Coombs, Archt., Lewiston.

★**Houlton, Me.**—Contract for erecting high school awarded to Astle & Page, of Bangor.

Boston, Mass.—Bids were opened June 25 by Supervising Archt., Washington, D. C., for construction of 5-story stone, terra cotta and brick-faced building for U. S. Immigration Station as follows:

Four lowest bids for construction: G. A. Fuller Co., Boston, $249,050; Chas. McCaul Co., Philadelphia, $279,828; Norcross Bros., Worcester, $294,968; Geo. Baker Long, Worcester, $295,000.

For lowest bids for mechanical equipment of immigration station: Warner & R. Stenhause, Washington, D. C., $65,781; W. G. Cornell Co., Washington, D. C., $72,460; Lynch & Woodward, Boston, $73,379; S. Faith & Co., Philadelphia, $74,973.

★**Dighton, Mass.**—Contract for erecting Bristol County Agricultural School awarded as follows: General construction of school to Darling & Slade Constr. Co., Newport, $30,680; plumbing and heating, W. R. Park & Son, Taunton, $4,086; barn and stable to S. W. Gardner, Berkley, Mass., $4,399.

Northampton, Mass.—Citizens voted to spend $60,000 for addition to 1 school and $25,000 each for additions to 2 schools.

Pittsfield, Mass.—Plans being prepared by J. MacA. Vance, Pittsfield, for 8-room addition to Dawes school; cost $50,000.

Boston, Mass.—Lowest bids received at U. S. Treasury Dept., Washington, D. C., for erecting immigration station submitted by Geo. A. Fuller Co., Boston, at $249,000, for building, and from Warren & Rittenhouse, Washington, D. C., for equipment, at $65,781.

Providence, R. I.—Plans being prepared for an 18-room grammar school to be erected on Mount Pleasant Ave., 10th Ward; cost $100,000.

★**Stamford, Conn.**—Contract for erecting addition to high school awarded as follows: General contract, Harris Constr. Co., Stamford, $96,926; heating, ventilating, Opperman Hennessey Co. Stamford, $12,236. Harry T. Hart, Clk. Selectmen.

New York, N. Y.—Bids desired until July 13 by Superintendent School Bldgs. for general construction, also plumbing and drainage of additions to and alterations to School 12, Boro. Bronx. Security, $30,000 and $3,000, respectively.

Brooklyn, N. Y.—Bids desired until July 23 by Public Service Comn. for First Dist., 154 Nassau St., New York, for construction of Station finish on Sections 1 and 2 of Route No. 11-B, a part of the Bway.-4th Ave., Brooklyn, Rapid Transit R. R., advertised in Engineering Record.

★**Port Richmond, S. I., N. Y.**—Contracts awarded June 29 by C. B. J. Snyder, Supt. School Bldgs., New York, to Wells & Newton, of N. Y., Ave. B and 17th St., New York, for ventilating and heating apparatus for School 20, Richmond Boro., at $24,950, and to Standard Regulator Co., 90 West St., New York, for temperature regulation at $2,992.

Rockville Center, L. I., N. Y.—Plans being prepared by Frank J. Berlenbach, 260 Graham Ave., Brooklyn, for a parochial school to be erected on Clinton Ave. for St. Agnes R. C. Church, cost $20,000.

Greece, N. Y.—Citizens of Dist. No. 1 voted $25,000 to enlarge school.

Buffalo, N. Y.—Bids desired until July 10 by Commissioner Pub. Wks. for sundry improvements at Bway. Market, to include masonry, concreting, cut stone, structural iron and steel, iron gates, roofing, insulation of ice boxes, refrigerator doors, plumbing, drainage, gas fitting, electric wiring, conduits, etc.

Waterford, N. Y.—Bids desired until July 15 by Town Bldg. Comn. for reconstructing the town hall. Wm. E. Clark, Archt., 506 Cannon Pl., Troy.

★*Items marked thus give the names of parties awarded contracts.*

★**Johnstown, N. Y.**—Contract for heating and ventilating in the Montgomery St. School awarded to H. J. Brandeles Co., Utica, at $7,750.

★**Overbrook, N. J.**—Contract for heating and ventilating apparatus in Tuberculosis Pavilion at Overbrook awarded by Co. Bd. Chosen Freeholders, Newark, to John H. Cooney, Harrison, at $17,798.

Newark, N. J.—Bd. School Estimate voted to erect administration building for Bd. Educ.; cost $500,000.

Reading, Pa.—Plans completed by A. A. Richter, 6th and Court Sts., for remodeling Homeopathic Hospital; cost, $40,000.

Pittsburgh, Pa.—Jansen & Abbott, Renshaw Bldg., completing plans for erecting brick and stone hospital at Sandusky St. and Park Way for Allegheny General Hospital.

McKeesport, Pa.—Plans for high school to be prepared by Vrydaugh & Wolf, Pittsburgh; cost $200,000.

Cheltenham, Pa.—Plans prepared by Herbert C. Wise, 34 S. 16th St., Philadelphia, for school; cost $25,000. Address School Bd.

Philadelphia, Pa.—A 1-story brick library is to be erected at Wayne and Hunting Park Aves. by city. Address Library Trustees; cost $45,000.

Com. on Boys' High Schools Bd. Educ. decided to recommend appropriation of $42,000 for enlargements and equipment to annex to Central High School at Broad and Green Sts.

Allentown, Pa.—Nurses' home, costing $50,000, to be erected at Allentown Hospital.

Tamaqua, Pa.—All bids opened by Dir. School Dist. June 19 for erecting 2 schools on Allington and Penn Sts. rejected, according to reports new plans being prepared.

Bradford, Pa.—School Board rejected all bids for building addition to high school and 6th Ward school; will readvertise. Geo. Paton, Secy. School Bd.

Milton, Pa.—Bids desired until July 7 by Bd. Educ. for furnishing material and erecting Central Grammar School on Bound Ave. Also separate bids for plumbing, ventilating and heating, electrical work. Chas. Howard Lloyd, Archt., Telegraph Bldg., Harrisburg.

Anacostia, D. C.—Lowest bid received June 18 by Dept. Interior, Washington, D. C., for erecting cow barns at Government Hospital for Insane was submitted by Melton Constr. Co., Washington, D. C., at $26,000.

Washington, D. C.—Bids desired until July 13 by Supervising Archt., Washington, D. C., for suspended ceilings, new floors, alterations, repairs, etc., in Auditor's building (old building, Bureau of Engraving and Printing).

★Contracts for erecting U. S. Post Office buildings have been awarded by Supervising Archt., Washington, D. C., as follows:

★McPherson, Kan., to Hiram Lloyd Bldg. & Constr. Co., St. Louis, Mo., $43,366.

★McComb, Ill., to R. S. Moore, Lafayette, Ind., $60,941.

★Arkansas City, Ark., to General Constr. Co., Milwaukee, Wis., $51,632.

★Pulaski, Tenn., to Algernon Blair, Montgomery, Ala., $46,314.

★Moundsville, W. Va., to W. H. Batson, Moundsville, at $59,850.

★Tarboro, N. C., to R. P. Farnsworth & Co., Owensboro, Ky., $55,268.

★Winchester, Tenn., to Algernon Blair, Montgomery, Ala., $45,219.

★Bennettsville, S. C., to Dietrick-Richardson Co., Richmond, Va., $37,838.

★Brigham City, Utah, to G. A. Whitney & Sons, Ogden, at $57,193.

Bids desired until July 9 by Comrs. D. C., for installing heating system in Webster School, 10th and H Sts.

★**Wilmington, Del.**—Contract for erecting addition to Delaware Hospital awarded by Bd. Trus. to A. S. Reed & Bro. Co., 815 Shipley St., at about $60,000; sub-contracts were awarded as follows: steam heating to Benj. F. Shaw Co., and electric installation to Garrett, Miller Electric Co.

Fairmont, W. Va.—Site of 12 acres purchased by State Bd. Control, Charleston, for erection of Fairmont State Normal School.

Charleston, S. C.—Bids desired until July 8 by Bd. Trus., High School, for erecting school.

Americus, Ga.—Citizens voted to erect grade school; cost $30,000.

Swainsboro, Ga.—Bids desired until July 9 by Comrs. of Roads and Revenues, for erecting 43 x 33 ft., 2-story and basement, brick and reinforced concrete fireproof jail.

Bainbridge, Ga.—A hog cholera serum station is to be erected in Bainbridge; cost, $20,000.

Miami, Fla.—Bids desired until July 13 at office of W. C. De Garmo, Archt., Bd. Trade Bldg., for erecting the Allapattah, Highland Park and Buena Vista schools and an addition to 2d St. School.

Bids desired until July 7 by County Comrs. for erecting an addition to County Courthouse.

Tampa, Fla.—Bids desired until July 7 by Secretary Bd. Pub. Instruction, for erecting new school in College Hill School Dist. Willis R. Bigger, Archt., Tampa.

Boyles, Ala.—State High School Comm. at Montgomery selected 10-acre site between Boyles and Tarrant City for erection of high school; cost, about $50,000.

Covington, Tenn.—All bids received by Superv. Archt., Washington, D. C., for erecting U. S. Post Office have been rejected.

Hopkinsville, Ky.—State Bd. Control voted to erect dining hall, at Western State Hospital, cost $30,000.

Covington, Ky.—Erection of high school, cost $150,000, is to be voted upon.

Louisville, Ky.—Bids desired until July 31 by Maj. J. C. Oakes, Corps Engrs., U. S. A., Louisville, for constructing 4 brick dwellings at Dam No. 43, Ohio River, 4 miles below West Point, Ky., advertised in Engineering Record.

Kent, O.—Bids desired until July 18 (extension of date from July 11) by Bd. Trus. Kent State Normal School, for erecting agricultural building and training building for said school. Geo. F. Hammond, Archt., 422 Prospect Ave., Cleveland.

Raymond, O.—Bids desired until July 9 by Clerk Liberty Township Rural School Dist. for $30,000 school building bonds.

Lancaster, O.—Bids desired until July 18 by State Armory Bd., Columbus, for erecting memorial armory at Lancaster. Cost reported at $33,000.

Cincinnati, O.—Plans of Kellogg, Rankin & Kellogg, Philadelphia, Pa., have been approved by Courthouse Comn. for erecting court house. Bids for constructing to be received about Sept. 1.

Oxford, O.—Trus. of the Western College for Women authorized addition to New Hall; cost $30,000.

Dayton, O.—Plans have been submitted for erecting administration building at Bonebrake Seminary, to be fireproof, of stone and brick or stone and terra cotta; cost $75,000.

Lorain, O.—Bids desired until July 20 by Bd. Educ., for erecting school on E. 31st St., including plumbing, ventilating, heating, gas fitting and electrical work. H. O. Wurmser, Archt., 627 Bway.

East Youngstown, O.—Bids desired until July 18 by Clerk Bd. Educ., for furnishing material and erecting a 4-room and basement brick addition to school on Gordon Ave., including plumbing, heating and electric wiring. C. F. Owsley, Archt., Mahoning Bank Bldg., Youngstown.

Alliance, O.—Bids reported desired by Director Pub. Service for erecting City Hall; cost, $65,000.

St. Bernard, O.—Bids desired until July 27 by Clk Bd. Educ., School Dist. No. 4, for ventilating and heating, air washing, exhausting and temperature regulation for high school unit, Tower Ave. building and Tower Ave. building annex. P. E. Moosmiller, Archt., Mitchell Bldg., Cincinnati.

Barberton, O.—City Hospital Co., Barberton, incorporated to erect hospital in Barberton; cost, about $75,000.

Michigan City, Ind.—City Bd. School Trus. sold $35,000 bonds for erecting school.

Huntington, Ind.—Z. T. Dugan, clk. School Dist., writes bids will be received after Jan. 1 for the erection of stone and brick school to cost about $150,000.

Kendallville, Ind.—Press reports state that bids desired until July 14 by City Hall Bldg. Com. for installing plumbing and wiring in new City Hall. Griffith & Hall, Archts., Ft. Wayne.

Detroit, Mich.—Building for Engineering Dept. is to be erected at Univ. Detroit; cost, $200,000.

Bids reported desired until July 7 by Secretary Bd. Educ. for erecting Kennedy and Harper Ave. schools; alterations to Palmer School. Bids also desired until July 21 for erecting Northern High School.

Chicago, Ill.—An appropriation of $1,734,000 for rehabilitation of Police and Fire Dept. recommended to City Council by Finance Com.; $1,159,000 to be spent on police stations and $575,000 for fire stations.

Joliet, Ill.—Bids desired until July 15 by Bd. of Inspectors for erecting grade school, including heating, ventilation, plumbing, electric wiring, etc. John H. Chubb, Archt., 109 N. Dearborn St., Chicago.

Quincy, Ill.—Bids desired until July 20 by State Armory Comn. at office of J. B. Dibelka, State Archt., 29 S. La Salle St., Chicago, for erecting 5th Infantry Regt. Armory.

South Bartonville, Ill.—Bids desired until July 20 by State Bd. of Administration, Springfield, for erecting following buildings at Peoria State Hospital, South Bartonville: Morgue and laboratory, receiving cottage for men, amusement hall, horse barn. Jas. B. Dibelkia, State Archt., 29 S. La Salle St., Chicago.

Urbana, Ill.—Bids desired until July 25 at office of J. B. Dibelka, State Archt., 29 S. La Salle St., Chicago, for erecting addition to chemistry building and an administration building at University of Illinois, Urbana; also separately for plumbing, ventilation and heating.

Fairbury, Ill.—Bids reported desired until July 14 by Secretary Bd. Educ., for erecting 2-story and basement high school Cost, $60,000. Hewitt & Emerson, Archts., 321 Main St., Peoria.

Waterford, Wis.—Bids reported desired until July 6 by Waterford Joint High School Bd. for erecting high school. Gilbert & Funston, Archts., Racine.

Cedar Rapids, Ia.—Bids desired until July 15 by Sigsbee St. School Society for Christian Instruction for erecting school; also plumbinb and heating. J. & G. Daverman, Archts., 64 Monroe Ave.

Monticello, Ia.—Erection of a court house in Monticello is contemplated; cost $50,000.

Davenport, Ia.—Plans prepared by A. H. Ebeling, Security Bldg., for 25-room addition to Mercy Hospital; cost $87,000.

★**Hastings, Minn.**—Contracts reported awarded by the State Bd. of Control, St. Paul, for mechanical equipment for State Asylum for Insane as follows: Stokers, to Underfeed Stoker Co. of America, $4,885, and boilers, to Healy Plumbing & Htg. Co., St. Paul, $6,450.

Nopeming, Minn.—Bids desired until July 6 by State Bd. Control, St. Paul, for erecting an infirmary, connection corridor and 2 cottage shacks, for 6 patients each, including general work, only at Nopeming Sanitarium, Nopeming. Holstead & Sullivan, Archts., Duluth.

★**Lake City, Minn.**—Contract for erecting U. S. Post Office awarded to Northern Constr. Co., Milwaukee, Wis., at $44,454.

Owatonna, Minn.—Bids desired until July 14 by State Bd. Control, St. Paul, for erecting a recreation building, dormitory, enlarging main dining room, and fireproofing south wing, main building; addition to cow barn, at State Public School, Owatonna, including general contract, heating, ventilating and plumbing. C. H. Johnston, Archt., 715 Capital Bank Bldg., St. Paul.

Brewster, Minn.—Bids reported desired until July 11 by Bd. Educ. for erecting 2-story and basement high school. Cost, $25,000. H. E. Walker, Archt., Lumber Exchange Bldg., Minneapolis.

★**Melrose, Minn.**—Contract for erecting school awarded to Edw. Hirt, St. Cloud, at $34,845; heating, ventilating and plumbing to Virginia Plumb. & Heating Co., Virginia, at $13,250.

★**Cherryvale, Kan.**—Following are the four lowest of the bids received June 24 by Bd. Educ. for erecting High School:

★General construction: Sharp Bros., El Dorado, Kan., $32,000 (awarded contract); Butts & Dickinson, Tulsa, Okla., $33,900; J. W. Van Meter, Oklahoma City, Okla., $34,300; W. H. Kreep, Bartlesville, Okla., $33,385.

★Heating and ventilating and plumbing, Elder Mercantile Co., Ottawa, Kan., $11,357; Thos. Herbert, Atchison, Kan., $10,200; Mendell Hardware Co., Bartlesville, Okla., $9,673; Bozell Plumbing Co., Cherryvale, Kan., $8,150 (awarded contract).

★Powers Regulator Co., Kansas City, Mo., secured contract for automatic regulator control at $990. Russell Howard, Clk.

Kansas City, Kan.—Bids reported desired until July 6 by Bd. Educ. for erecting schools as follows: Bryant Primary School, 17th St.; Chelsea Primary School, 25th St.; Parker School, 33d St.; Francis Willard School, 35th St.

Leavenworth, Kan.—Bids desired until July 21 by Superintendent of Prisons, Washington, D. C., for installing ventilating and heating apparatus in U. S. Penitentiary, Leavenworth.

★**Burlington, Kan.**—Contract for erecting school here awarded to Sharp Bros., El Dorado, at $30,000.

Craig, Neb.—Bids desired until July 15 by Bd. Educ. for erecting 2-story and basement high school; also heating and plumbing. W. F. Gernandt, Archt., Karbach Bldg., Omaha.

McLean, Neb.—Bids desired until July 10 by Bd. Educ. for erecting public school. Buettler & Arnold, Archts., Sioux City, Ia.

Flandreau, S. D.—Bids desired until July 27 by Warren G. Cowles, Secretary, for erecting a 2-story brick high school. Jos. Schwarz, Archt., Sioux Falls.

Mobridge, S. D.—Bids desired until July 15 by Bd. Directors Flora School Dist. No. 13, Walworth County, care of Orson Clark, Treas., Mobridge, for erecting 2-story and basement brick high school. J. K. Van Ess, Archt., Aberdeen.

St. Louis, Mo.—Bids desired until July 17 by Bd. Pub. Improv., for erecting 3 boys' cottages for new Industrial School at Bellefontaine Farms.

Leeds, Mo.—Bids desired until July 10 by Bd. Pub. Wks., Kansas City, for erecting tuberculosis hospital, Municipal Farm, near Leeds; also installing heating, plumbing, vacuum cleaning system, electric light and power wiring, refrigerating machinery, etc.

Little Rock, Ark.—All bids received by Supervising Archt., Treas. Dept., Washington, D. C., for construction, complete, of U. S. post office reported rejected.

Texas City, Tex.—Plans of John McClelland, Houston, for annex to Wolvin School accepted by Trus. Independent School Dist.

★**Terrell, Tex.**—Contract for erecting city hall awarded to Berry Metcalf, Corsicana, at $34,715.

Ft. Worth, Tex.—A theological seminary costing about $130,000 is to be erected at Texas Christian Univ.

Galveston, Tex.—Attorney General has approved $300,000 municipal building bonds, including city hall, and $150,000 paving bonds.

San Antonio, Tex.—Plans for addition to Court House approved; cost $60,000.

School Bd. June 17 rejected all bids opened for erecting Beacon Hill High School; appropriation available, $25,000. According to reports new bids will be received.

Greely, Colo.—Bids desired until July 10 by Bd. Trus., State Teachers' College, Greely, for erecting Women's Club House. Thos. P. Barber, Archt., Colorado Springs.

Oklahoma City, Okla.—Preliminary plans have been approved by Capitol Comn. for capitol building, to be 2-story, 144 x 400 ft.

Seattle, Wash.—Lowest bid opened June 29 by County Comrs. for erecting courthouse, was submitted by Puget Sound Bridge & Dredging Co., Central Bldg., at $1,127,000. A. Warren Gould, Archt., American Bank Bldg.

Bd. Regents University Washington contemplates erecting 10-story building on Metropolitan tract at 4th Ave. and University St.; cost, about $400,000.

Contract for erecting warehouse and freight shed for Port Comn. awarded to A. S. Peterson, 4311 Whitman Ave., at $78,235.

Ephrata, Wash.—Citizens voted $15,000 bonds for erecting school.

Sierra Madre, Cal.—Citizens voted to erect additions to schools.

Berkley, Cal.—Building to be erected at Wellesley School in North Berkley; cost, $60,000. Adelaide Smith, Principal.

San Francisco, Cal.—The following bids were opened June 17 for erecting jail emergency hospital: W. A. Newson, $41,388; T. W. McClenahan & Co., $39,300; Monson Bros., $47,882; Alfred Kohn, $44,922; Lawson Samson Co., $47,500; Wm. Bateman, $46,000 (bidders all of San Francisco). F. J. Churchill, Secy. Bd. Pub. Wks.

Lowest bid received for erecting ferry building at the Panama-Pacific Exposition submitted by Strehlow, Freese & Peterson at $42,200, and for press building by Neil A. McLean at $22,000.

Bakersfield, Cal.—Bids desired until July 13 by County Bd. Superv. for $40,000 Bakersfield School Dist. building bonds.

Nogales, Ariz.—A 2-story concrete and brick school is to be erected here; cost about $40,000.

Bonners Ferry, Idaho.—Citizens voted $55,000 bonds to erect high school.

Salt Lake City, Utah.—Plans being prepared by Scott & Welch, Dooly Blk., for 2-story 60 x 101-ft. Kamas High School; cost $30,000.

Ephraim, Utah.—Bids desired until July 9 by City Council for erecting library, including heating, plumbing and electric wiring. Watkins & Birch, Archts., Felt Bldg., Salt Lake City.

★**Ste. Agathe, Que.**—Contract for erecting public building awarded to J. A. & R. Grou, St. Laurent, Que.

Ottawa, Ont.—Bids reported desired by Secretary Dept. Pub. Wks., Ottawa, Ont., for erecting public buildings as follows:

Until July 13, Manitou, Man. H. E. Matthews, Supt. Archt., Dominion Pub. Bldgs., Winnipeg.

Until July 15, Red Deer, Alta. C. A. Julian Sharman, Barnes & Gibbs, Archts., Red Deer. Also at New Hazleton, B. C. Wm. Henderson, Archt., Victoria.

★**Listowel, Ont.**—Contract for erecting drill hall awarded to W. A. Tom Constr. Co., Ltd., Collingwood, Ont.

Milton, Ont.—Bids desired until noon, July 6, at office of County Clerk, for erecting fireproof registry office. Gordon M. West, Assoc. Archt., 2 College St., Toronto. Wm. Panton, Co. Clk.

Toronto, Ont.—See "Sewerage and Sewage Disposal."

Durham, Ont.—Bids desired until July 20 by Secretary Dept. Pub. Wks., Ottawa, Ont., for erecting public building in Durham.

Ottawa, Ont.—Bids desired until July 13 by Secretary Dept. Pub. Wks., for heating system materials, Eastern Block, Ottawa.

Medicine Hat, Alta.—Bids desired until 5 p. m., July 6, by Secretary School Bd., for erecting primary school. McCoy & Levine Engr. Co., Engrs., Huckvale Blk.

★**Humboldt, Sask.**—Contract for erecting court house awarded to Parsons Constr. Co., Regina, Sask., at $79,990.

★Items marked thus give the names of parties awarded contracts.

New Hazelton, B. C.—Bids reported desired until July 15 by Dept. Pub. Wks., Ottawa, Ont., for erecting post office here; cost, $150,000.

Vancouver, B. C.—Bids reported desired until Aug. 5 by Sharp & Thompson, Archts., London Bldg., for erecting science building for University of British Columbia. Cost, $300,000.

Prince Rupert, B. C.—Bids reported desired until July 21 by Secretary Dept. Pub. Wks., Ottawa, Ont., for erecting post office at Prince Rupert. Cost, $300,000. Wm. Henderson, Archt., Victoria.

Victoria, B. C.—J. C. Keith has been directed to prepare plans for school to be erected in South Park; appropriation available for schools, $150,000.

PRIVATE BUILDINGS.

Items Arranged Geographically

Pawtucket, R. I.—Plans being prepared by J. F. O'Malley, 75 Westminster St., Providence, for brick and concrete office and store building for Broad St. Power Co.; cost $100,000.

Hartford, Conn.—Reported that bids are about to be asked by New York, New Haven & Hartford R. R. (Edw. Gagel, Ch. Engr., New Haven,) for erecting the station here.

New York, N. Y.—Plans filed for 12-story fireproof brick office building to be erected at 20 Pearl St. for South Ferry Realty Co., cost $450,000; Starrett & Van Vleck, 45 E. 17th St., Archts.; and for 9-story brick tenement to be erected at 343 W. 88th St. for Riverside Drive-88th St. Corporation, cost $350,000. Rouse & Goldstone, 38 W. 32d St., Archts.

★Thompson-Starrett Co., 49 Wall St., secured contract for erecting building on site of the Herald Sq. Theater Bldg., Bway. and 35th St. Clinton & Russell, Archts., 32 Nassau St.

Plans for Irving Hotel for Women to be erected at 312 W. 30th St., to be prepared by Jackson, Rosencrans & Waterbury, 1328 Bway. It is reported that the building is to be 12-story, brick, limestone and terra cotta, and cost $250,000.

★**Brooklyn, N. Y.**—Contract has been awarded to Ed. Corning Co., 100 William St., New York, for erecting training school for Pratt Institute; it will be 4 stories, 61 x 112 ft., of brick, stone and iron, and cost $100,000.

★**Jamestown, N. Y.**—Contract for erecting First Baptist Church awarded to Jamestown Constr. Co.; cost, $75,000.

Rochester, N. Y.—Lake Ave. Baptist Church approved tentative plans for enlarging the church; cost $65,000.

Atlantic City, N. J.—Plans being prepared by Shull & Berry, Humphreys Bld., for 1-story brick nursery building; cost $25,000.

Greensburg, Pa.—Congregation of Christian Church plans erecting $40,000 edifice. Rev. B. Johnson, Pastor.

Abington, Pa.—Plans prepared by Mantle Fielding, 518 Walnut St., Philadelphia, for 2-story brick Y. M. C. A. building.

Lebanon, Pa.—Bd. Managers Widows' Home on N. 10th St. contemplates erecting building; cost $25,000.

Pitcairn, Pa.—Plans for McGinnis Presbyterian Church, brick or stone, to be prepared by Fulton & Butler, Uniontown; cost $35,000.

Ridley Park, Pa.—Plans being prepared by Rankin, Kellogg & Crane, 1012 Walnut St., Philadelphia, for edifice for Ridley Park Presbyterian Church; cost, $40,000.

★**Scranton, Pa.**—Contract for erecting Industrial Home for Boys at White Ferry for the Scranton Roman Catholic Diocese awarded to Amsterdam Bldg. Co., New York, N. Y., at $124,647.

★**Boyertown, Pa.**—Contract for erecting stone bank building for the National Bank awarded to Fink & Seidel, Reading; cost, $40,000.

Petersburg, Va.—Center Hill Apartments Co. contemplates erecting 5 story apartment on Center Hill, cost $75,000.

★**Charleston, W. Va.**—Contract for erecting steel frame office building for United Fuel Gas Fuel Co. awarded to Ragland-Baxter-Morford Co., Nashville, Tenn.

Buckhannon, W. Va.—Knights Pythias Home Bd. selected Buckhannon as site for Pythian Home for State; cost improvement, $100,000.

Spartanburg, S. C.—Spartanburg Hotel Co. is to construct a hotel on site of Spartanburg Inn; cost, $250,000. J. B. Cleveland is interested.

Shreveport, La.—Contract about to be let for erection of synagogue here; cost $50,000, for Jewish Congregation.

★**Piqua, O.**—Contract for erecting Grace M. E. Church awarded to A. M. Fry, Dayton; cost, $35,000.

Dayton, O.—Plans being prepared by Schenck & Williams, 591 Arcade St., for erecting Union Traction Terminal Station; cost, about $100,000.

★**St. Mary's, O.**—Contract for erecting edifice for St. Paul Reformed Congregation awarded to W. F. Brodbeck, St. Mary's, at $24,497.

Lafayette, Ind.—Bids reported desired until July 6 by C. W. Nicol, Archt., 2 Emsing Pl., for erecting 2-story and basement clubhouse for B. P. O. E. Cost, $35,000.

★**Newberry, Mich.**—Contract for erecting 3-story brick hotel awarded to Herman Gundlach, Houghton, at $30,000.

★**Detroit, Mich.**—Contract awarded to Jas. Black Masonry & Constr. Co., St. Louis, Mo., for erecting a 10-story fireproof mercantile building on Michigan Ave. and Wayne St. for David Scott.

Edwardsville, Ill.—John G. Friedericks purchased site at N. Spring and Main Sts. for erection of theater 100 x 150 ft.; cost $50,000.

Chicago, Ill.—Plans approved for erection of Y. M. C. A. Bldg. in connection with Olivet Institutional Church on W. North Ave. and Sedgwick St.; cost, $300,000.

Rock Island, Ill.—First Church of Christ (Scientist) intends erecting a stone edifice costing $75,000.

Kankakee, Ill.—Bids desired until July 23 by H. L. Crawford, Secy. Bldg. Com., for erecting lodge and clubhouse for Order of Elks. Chas. P. Rawson, Archt., Chicago.

Milwaukee, Wis.—Plans being prepared for photo-play theater to be erected at 12th and Chambers Sts. for Badger Amusement Co.; cost, $50,000.

J. H. Sure, Milwaukee, and Abraham Epstein, Berlin, Wis., will erect 8-story hotel of concrete and brick at Wells and 5th Sts.; cost, $150,000.

Plans being prepared by Schnetzky & Son, 1320 Cedar St., for brick, concrete and steel office, salesroom and factory for Franzen Investment Co. on E. Water and Buffalo Sts.: cost $100,000.

Plans being prepared by Brust & Philip, 82 Wisconsin St., for 8-story office building to be erected on 2d St. for Badger State Investment Co.; cost $150,000.

Sheboygan, Wis.—Bids desired until July 8 by Harry McNeill, Secy. Bldg. Com., for erecting solid brick and stone church. Parkinson & Dockendorf, Archts., La Crosse.

Ft. Dodge, Ia.—W. L. Steele, Sioux City, is architect for edifice for Sacred Heart R. C. Church.

Sioux City, Ia.—Plans prepared by F. E. Colby, Farmers' Loan & Trust Co.'s Bldg., for 2-story brick, 54 x 100-ft. building to be erected at 4th and Jennings Sts. for Frisbie & Selzer; cost, $30,000.

★Contract for erecting the 3-story fireproof, brick, stone and terra cotta building for the Live Stock Natl. Bank on Chambers St. awarded to B. E. Short, Sioux City; cost, $125,000.

★**Muscatine, Ia.**—Contract for erecting Muscatine Hotel awarded to Geo. W. Stiles Constr. Co., Chicago, Ill., cost $200,000. Bids opened by Paul V. Hyland, Archt., 29 E. Madison St., Chicago, Ill., May 26.

★**Clinton, Ia.**—Contract awarded June June 15 by J. Morrell & Sons, Archts., Howes Bldg., for erecting moving picture theater and store building for Donlon Bros., 647 4th Ave., as follows: General construction, Danl. Haring, Clinton; heating, C. E. Armstrong & Sons, Clinton; plumbing, E. N. Woodbury Co., Clinton; painting, Richard Holle, Clinton; total cost reported to be $60,000.

Minneapolis, Minn.—National City Bank of Minneapolis intends erecting a 3 or 4 story bank building on 7th St.

New Ulm, Minn.—Bids desired until July 20 by Farmers & Merchants State Bank for erecting 2-story brick, 26 x 80 ft., brick mill constructed bank building. A. Moorman & Co., St. Paul, Archts., Paul Hackbarth, Chmn. Bldg. Com.

Alliance, Neb.—Bids desired until July 29 by Alliance Lodge, No. 961, B. P. O. E., for erecting club house.

Wynne, Ark.—Hotel to cost $40,000 to be erected in Wynne. R. Block and S. W. Ogan said to be interested.

El Paso, Tex.—Plans have been prepared for erection of lodge building at Santa Fe and Franklin Sts. for I. O. O. Fellows; cost $35,000.

Dallas, Tex.—Congregation Gaston Ave. Baptist Church voted to purchase site at Swiss and Haskell Aves. for edifice; cost, $250,000; Henry A. Porter, pastor.

★**Brownwood, Tex.**—Contract awarded June 23 by Gulf, Colorado & Santa Fe R. R. Co. (F. Merritt, Ch. Engr., Galveston) for erecting 2-story and basement, 109 x 40 ft. eating house at Brownwood to Gross Constr. Co., Waco. Cost reported to be $40,000.

Denison, Tex.—Dallas Traction Co. purchased site at Houston and Woodard St. for erection of terminal station; cost, $25,000.

★**Beaumont, Tex.**—Contract for erecting 1-story building, 100 x 221 ft., and 2-story building, 60 x 171 ft., at Fannin and Main Sts., for Caswell Estate awarded to J. S. Meriwether; cost, $36,000. Bids opened June 15 by Babin & Beck, Archts.

Seattle, Wash.—Concordia Club intends erecting 3-story concrete building on Van Ness Ave. and Post St.; cost $100,000.

Frederick & Nelson secured site at 5th and Pine Sts. on which to erect 8-story drygoods and department store; cost $1,000,000.

Bids reported desired until July 15 by Saunders & Lawton, Archts., Alaska Bldg. for erecting fireproof Masonic Temple on Broadway and East Pine St.; cost $125,000.

★**Spokane, Wash.**—Contract for erecting 3-story fireproof building at 5th and Burnside Sts. awarded to W. C. Arthur, 497 Vancouver Ave. W. B. Bell, Sherlock Bldg., Archt.

Seattle, Wash.—Plans being prepared by Howells & Stokes, Henry Bldg., for erecting office building at University and 4th Aves., for Metropolitan Bldg. Co.; cost, $450,000.

★Contract for erecting 4-story brick hotel on Yesler Way and Post St. for Yesler Estate awarded to Hans Pederson, Madison Blk.; cost about $135,000. A. Wickersham, Lyon Bldg., Archt.

Plans being prepared by Howells & Stokes, Henry Bldg., for 2-story fireproof museum building to be erected at 5th and Seneca Sts. for Washington State Art Assoc.; cost, $125,000.

★**Portland, Ore.**—Contract for 3000 tons steel for Meir & Frank Bldg. awarded to Northwest Steel Co.; cost of building, $1,250,000. Dinwiddie Constr. Co., Yeon Bldg., General Contractors.

★**Portland, Ore.**—Contract for erecting 2-story concrete theater on Stark and Park Sts. for Farrell Investment Co. awarded to Boyajohn-Arnold Co., Panama Bldg.; cost, $100,000.

★**San Mateo, Cal.**—Contract awarded to John MacBain for erecting residence for Christian de Guigne, Jr.; cost $100,000.

Long Beach, Cal.—Markwell Bros. contemplate erecting 5-story building east of pier and north of Seaside Boule.

San Francisco, Cal.—Addition is to be erected to Market St. Branch of Bank of Italy; cost $40,000.

Plans being prepared by Rousseau & Rosseau, Monadnock Bldg., for 5-story Class "C" apartment house to be erected at Hyde and O'Farrell Sts.; cost $89,000.

Revised plans are being prepared by E. T. Foulkes, Crocker Bldg., for 3-story reinforced concrete hotel to be erected on Baker and Lombard Sts. for Inside Inn Corporation; cost, $300,000.

Phoenix, Ariz.—Jas. L. Walker, P. O. Box 30, writes B. McDonald is preparing plans for a 4-story concrete building, 50 x 125 ft., to be erected at Washington St. and 1st Ave.

Montreal, Que.—M. Wolff, 214 Bishop St., writes it is proposed to erect a vaudeville theatre at 582 to 604 St. Catherine St., to cost about $200,000.

★Contract awarded to W. H. Wardwell, New Birks Bldg., for reinforced concrete structure for the Molsons Bank, at St. Lawrence and Ontario Sts., Montreal. Turner & Carless, Archts.

Toronto, Ont.—F. S. Thomas Co. purchased site at John and Queen Sts. for erecting 5-story 80 x 110-ft. warehouse; cost, $70,000.

NEW INDUSTRIAL PLANTS.

See also "Private Buildings."

Items Arranged Geographically

Holyoke, Mass.—Germania Mills, on Jackson St., is to erect addition; cost, $100,000.

New York, N. Y.—Plans filed for 12-story brick factory to be erected at 10th Ave. and 37th St. for Elsie T. Underhill; cost, $345,000. Hill & Stout, Archts., 299 Madison Ave.

Brooklyn, N. Y.—Plans to be prepared by Wm. Higginson, 21 Park Row, New York, N. Y., for 7-story reinforced concrete factory, to be erected at S. 5th and Berry Sts., for Fredk. Gretsch Mfg. Co., 110 S. 4th St., Brooklyn.

★**Mt. Vernon, N. Y.**—Contract for erecting 1-story brick and reinforced concrete factory on S. Fulton and 8th Sts. for Ward Motor Vehicle Co., awarded to Fountain & Choate, 110 E. 23rd St., New York, at $75,000.

Buffalo, N. Y.—Ralston Purina Co., St. Louis, Mo., has purchased site at Prenatt St. and the "Nickel Plate" Railroad and will build new milling plant comprising several buildings, including grain elevator of reinforced concrete, having capacity of 20 carloads per day and 150 carloads per week; estimated cost, $500,000.

Crocker plant of American Agricultural Chemical Co., Babcock and Lewis Sts., mfrs. of fertilizers, etc., was damaged by fire June 20, a 5-story mixing building being destroyed and a 4-story warehouse partially burned.

Batavia, N. Y.—A 2-story factory is to be built by the Batavia Sanitary Bed & Mattress Co., at Center and School Sts., for manufacture of beds, mattresses, etc. Wm. F. Bohn, Pres.

Rome, N. Y.—Armour Co., Chicago, Ill., is having plans prepared for a plant to be established here of concrete construction, fireproof; cost, $40,000.

★**Jamestown, N. Y.**—Contract awarded to Chas. Haas, for erecting addition to plant of Acme Worsted Mills Co.; cost, $25,000.

Johnsonburg, Pa.—Plans being completed for rebuilding foundry and machine shop of Johnsonburg Machine Co., destroyed by fire.

Allentown, Pa.—Lehigh Bolt & Nut Co. purchased site at 16th St. for erection of 287 x 100-ft. corrugated iron building, built on steel frame.

★**Baltimore, Md.**—Contract awarded to West Constr. Co., Baltimore, for erecting machine shop at Oliver and Latrobe Sts. for Crown Cork & Seal Co.; cost, including equipment, $200,000.

★Contract for erecting factory on Lombard St. and Fremont Ave. for Gandy Belting Co. awarded to Arthur Tufts; cost reported at $135,000.

Jackson, Tenn.—It is reported that the Mobile & Ohio R. R. (B. A. Wood, Ch. Engr., Mobile, Ala.) plans erecting new shops at Claymore and repairing the old shops at Jackson; total expenditure about $600,000.

★**Youngstown, O.**—Contract awarded to Julian Kennedy, Pittsburgh, Pa., for building open hearth steel furnaces for Youngstown Iron & Steel Co. The contract includes three 75-ton furnaces, a bar mill, slab and universal plate mill. Cost is reported at $1,000,000.

★**Oxford, Mont.**—Contract for erecting 30,000 bu. grain elevator for Farmer's Elevator Co. awarded to Burrell Eng. Co., Chicago, Ill.

★**Seattle, Wash.**—Contract awarded to Butler Contr. Co., Central Bldg., for constructing concrete foundations for grain elevator for Port Comn. Cost of elevator complete is to be about $300,000.

Richmond, Cal.—Palmer Extract Co. will erect 5-story factory here.

MISCELLANEOUS.

See also "Hydraulic Construction and River Improvements."

Items Arranged Geographically

Coal Pockets—Ft. Williams, Me.—Bids desired until July 29 by Constructing Q. M., U. S. A., for constructing concrete coal pockets.

Wire and Tubes—Springfield, Mass.—Bids desired until July 21 by Commanding Officer, Springfield Armory, for furnishing about 26,000 lbs. medium soft and hard brass wire and 38,000 brass tubes.

Museum Cases—Albany, N. Y.—Bids desired until July 21 by Dr. John H. Finley, Comr. of Educ., N. Y. State Bd. Educ., Albany, for type AA museum cases for N. Y. State Education Building, Albany, advertised in Engineering Record. Lewis F. Pilcher, State Archt., Albany.

Tunnel—Chicago, Ill.—Bids opened by Comr. Pub. Wks., June 25, for constructing Sect. 2, Wilson Ave. tunnel (a) Oscar Daniels Co.; (b) Byrne Bros. Dredging & Eng. Co.; (c) Keystone State Contr. Co. & Paul Brown; (d) Jos. Hanreddy; (e) M. H. McGovern Co.; (f) Ulen Contr. Co.; (g) Contractor McCormick. (The bid of M. H. McGovern, said to be lowest, at an approximate total of $1,240,000.)

	(a)	(b)	(c)	(d)	(e)	(f)	(g)
3,753 Lin ft. 13-ft. tunnel...	$90.00	$90.34	$75.00	$89.90	$70.00	$66.00	$128.50
15,581 Lin. ft. 12-ft. tunnel...	79.00	78.78	66.00	89.90	60.00	64.00	111.00
180 Lin. ft. 8-ft. tunnel...	46.50	41.76	60.00	89.90	45.00	39.00	50.00
32 Lin. ft. 8-ft. shaft (lined)	150.00	41.76	60.00	40.00	80.00	60.00	150.00
Bulkhead furnished and set (lump sum).....	3,300.00	2,250.00	2,500.00	2,000.00	3,500.00	3,000.00	2,000.00
Setting gates and operating mechanism (l'p sum)	1,100.00	402.00	750.00	5,000.00	2,000.00	1,500.00	2,500.00
Placing cover on shore shaft (lump sum)....	300.00	326.33	500.00	1,100.00	1,500.00	600.00	1,000.00
60 Lin. ft. lining shaft, Portland c't concrete (excavated by city)..	65.00	30.00	20.00	30.00	25.00	35.00	20.00
1,000 Lin. ft. lining tunnel, Portland c't concrete (excavated by city)..	27.00	27.36	15.00	20.00	25.00	20.00	30.00
Making connections shaft and 8-ft. tunnel between shores	200.00	37.24	70.00	50.00	100.00	70.00	70.00
Will pay city for buildings, head house, etc., shaft now at shore (lump sum)	100.00	700.00	100.00	250.00	500.00	500.00	300.00

★Items marked thus give the names of parties awarded contracts.

Oil Tanks—Cumberland, Md.—The Standard Oil Co. reported to be considering the erection of oil tanks and buildings in the upper end of city, to cost $60,000.

Sundry Civil—Washington, D. C.—U. S. Senate has passed the Sundry Civil bill, which calls for an appropriation of $107,000,000.

Cable—Washington Barracks, D. C.—Bids desired until July 6 by Lieut.-Col. Jos. E. Kuhn, Corps Engrs., U. S. A., for furnishing 4200 ft. 212,000 cir. mils., stranded single conductor lead-covered cambric insulated armored cable.

Sheet Piling—Wilmington, N. C.—Bids desired by Maj. H. W. Stickle, Corps Engrs., U. S. A., until July 10 for 1576 tons steel sheet piling and accessories, advertised in Engineering Record.

Coal Terminals—Charleston, S. C.—Under terms of an agreement entered into June 26 between City Council and Holston Corp. the latter will within a period of 60 days from July 1 commence construction on Town Creek of terminals. Mark W. Potter, Pres. Holston Corp., John P. Grace, Mayor.

Culvert—Newton, Miss.—Bids desired until July 13 by Highway Comn., Dist. No. 4, for culvert piping. B. N. Snowden, Engr., Newton.

Retaining Wall, Etc.—Cincinnati, O.—Bids desired until July 13 by Clerk Bd. Educ. for furnishing material and constructing retaining wall, sewer and iron fence and cementing yard at Sands School, Poplar St.

Boiler and Stack—Perham, Minn.—Bids desired until July 6 by Paul Miller, Recorder, for a 72 x 18 ft. boiler, also stack for same.

Conduit, Etc.—Panama.—Bids desired until July 3 by General Purchasing Officer, Panama Canal, Washington, D. C., under Cir. 859-A, 2000 lbs. sheet copper, 84,000 duct ft. 4-duct multiple and 5200 ft. 2-duct vitr. conduit and Dowell pins.

Steel Cylinders — Panama.—Following bids reported opened by Purchasing Office, Isthmian Canal Comn., Washington, D. C., for a quantity of material for steel cylinders, 6 ft. diam., consisting of plates, angles, hands, etc., estimated weight, 4,285,063 lbs.: Naylor & Co., 45 Wall St., New York, $71,472 (105 days); U. S. Steel Products Co., New York, $62,004 (85 days); Worth Bros. Co., Coatesville, Pa., $69,648 (150 days); J. B. Kendall Co., Washington, D. C., (2 bids), $71,132 and $67,918 (80 days).

Proposals

For Proposals Advertised see Pages 45, 46, 47 and 48.

WATERWORKS.

Bids Close.		See Eng. Record.
July 7.	Works, Winfield, Ia.	Jun. 27
July 7.	Alum Plant, Columbus, O.	Jun. 27
Jul. 7.	Pipe, Harrison, N. J.	Jul. 4
Jul. 8.	Cleaning Mains, Etc., Brooklyn, N. Y.	Jul. 4
Jul. 9.	Pipe, Etc., Wapello, Ia.	Jun. 20
Jul. 9.	System, Greensboro, Md.	Jul. 4
Jul. 10.	Water Wks., Humboldt, S. D.	Jun. 20
Jul. 10.	Mains, Carrington, N. D.	Jun. 27
Jul. 10.	System, Bancroft, Idaho.	Jul. 4
Jul. 11.	System, Daytona Beach, Fla.	Jul. 4
Jul. 13.	Pipe, Richland, Pa. Adv. Jul. 4.	Jul. 4
Jul. 13.	Mains, New York, N. Y.	Jul. 4
Jul. 13.	Mains, Brooklyn, N. Y.	Jul. 4
July 13.	Mains, Highland Park, Mich. Adv. July 4.	July 4
July 14.	Contract 145, New York, N. Y. Adv. June 20.	Jun. 20
July 14.	System, Bushnell, Fla.	Jun. 27
July 14.	Pumping Station, Memphis, Tenn. Adv. June 27 to July 4.	Jun. 27
Jul. 14.	Pumps, Tell City, Ind.	Jul. 4
Jul. 16.	Pumps, Columbus, O.	Jul. 4
Jul. 17.	Wks. Exten., Orillia, Ont.	Jul. 4
Jul. 20.	Pipe, Guayaquil, Ecuador. Adv. Jul. 4.	Jul. 4
July 21.	Filter, Machinery, Etc., La Grange, Ga. Adv. June 27 to July 4.	Jun 27
Jul. 21.	System, Frankfort, O.	Jul. 4
Jul. 21.	Remodel. Pump. Sta., Arkansas City, Ark.	Jul. 4
Jul. 21.	Enlarging Water Works, Clyde, O.	Jul. 4
July 22.	Water Improvements, Hudson, N. Y. Adv. June 27 to July 4.	Jun. 27
Jul. 22.	Pipe, Bingham Canyon, Utah Adv. Jun. 27, Jul. 4.	Jun. 27
Jul. 23.	Filtration, Cleveland, O. Adv. Jun. 27, Jul. 4.	Jun. 27
Jul. 23.	Engines For Sale, Columbus, O. Adv. Jul. 4.	Jul. 4
Jul. 24.	Improv. System at Reformatory, Bedford Hills, N. Y. Adv. Jul. 4.	Jul. 4
Jul. 27.	Pumps, Orillia, Ont.	Jul. 4
July 30.	Reservoir, Pownal, Me.	July 4
Aug. 27.	Works, Dalton, Neb.	Jun. 13

SEWERAGE AND SEWAGE DISPOSAL.

Bids Close.		See Eng. Record.
July 7.	Sandusky, O. Adv. Jun. 13 to 27.	Jun. 13
Jul. 7.	New London, Wis.	Jun. 27
July 7.	Stillwater, Minn.	Jun. 27
Jul. 7.	Paterson, N. J.	Jun. 27
Jul. 7.	Hartford, Conn. Adv. Jun. 27.	Jun. 27
Jul. 7.	Toronto, Ont.	Jul. 4
July 7.	Birmingham, Ala.	July 4
Jul. 8.	Long Island City, L. I., N. Y.	Jul. 4
Jul. 8.	Marion, O.	Jul. 4
Jul. 8.	Cleveland, O. Adv. Jul. 4.	Jul. 4
Jul. 9.	Piqua, O.	Jul. 4
Jul. 9.	Wapello, Ia.	Jul. 4
Jul. 10.	Carrington, N. D.	Jun. 27
July 13.	Los Angeles, Cal.	July 4
Jul. 14.	Columbus, O.	Jun. 27
Jul. 14.	Newark, N. J. Adv. June 13, 20 and July 4.	Jun. 13
Jul. 14.	Washington, D. C.	Jun. 20
July 14.	Guthrie Centre, Ia.	Jun. 20
July 14.	Stanton, Neb.	Jun. 27
Jul. 14.	Staples, Minn.	Jul. 4
Jul. 14.	Bridgeport, Conn. Adv. Jul. 4.	Jul. 4
Jul. 14.	Palouse, Wash.	Jul. 4
Jul. 14.	Medina, N. Y.	Jul. 4
July 15.	Daytona, Fla. Adv. Jun. 13 to 27.	Jun. 13
Jul. 15.	Springfield, Ill.	Jul. 4
Jul. 17.	Westerville, O.	Jul. 4
Jul. 18.	Vancouver, B. C.	Jul. 4
Jul. 20.	Tarentum, Pa. Adv. Jul. 4.	Jul. 4
Jul. 21.	Clarion, Ia.	Jul. 4
July 22.	Long Beach, Cal.	July 4
July 23.	Le Mars, Ia.	Jun. 20
Jul. 24.	Bedford Hills, N. Y. Adv. Jul. 4.	Jul. 4
July 27.	Houston Heights, Tex. Adv. June 27 to July 4.	Jun. 27
Jul. 28.	Sect. 14, Newark, N. J. Adv. Jul. 4.	Jul. 4
Jul. 28.	Sect. 27, Newark, N. J. Adv. Jul. 4.	Jul. 4
Aug. 1.	Baton Rouge, La.	Jun. 27

BRIDGES.

Bids Close.		See Eng. Record.
Jul. 7.	Toronto, Ont. Adv. Jun. 20.	Jun. 20
July 7.	Stillwater, Minn.	Jun. 27
July 7.	Wilkes-Barre, Pa.	Jun. 27
Jul. 7.	Pikesville, Ky.	Jun. 27
Jul. 7.	Hazard, Ky.	Jun. 27
Jul. 7.	Louisville, Ky.	Jul. 4
July 8.	Laramie, Wyo.	Jun. 6
July 8.	Lindsborg, Kan.	Jun. 20
July 9.	New Orleans, La.	Jun. 20
July 9.	Kansas City, Mo.	Jun. 27
July 9.	Williston, N. D.	Jun. 27
Jul. 9.	Independence, Mo.	Jul. 4
July 10.	Washington, Kan.	Jun. 20
Jul. 10.	Troy, O.	Jun. 27
Jul. 10.	Akron, O.	Jul. 4
Jul. 10.	Batesville, Ark.	Jul. 4
Jul. 10.	Indianapolis, Ind.	Jul. 4
July 11.	Challis, Idaho.	Jun. 27
Jul. 11.	Miamisburg, O.	Jul. 4
Jul. 13.	Crookston, Minn.	Jun. 20
Jul. 13.	New Philadelphia, O.	Jun. 20
July 13.	Batesville, Miss.	Jun. 27
July 13.	Little Falls, Minn.	Jun. 27
Jul. 13.	Worthington, Minn.	Jun. 27
July 14.	Hawkesbury, Ont.	Jun. 20
Jul. 14.	Connecticut	Jul. 4
Jul. 15.	Louisville, Ky. Adv. June 20 to July. 4.	Jun. 20
Jul. 15.	Birmingham, Ala.	Jul. 4
July 17.	Toledo, O.	Jun. 27
Jul. 20.	San José, Cal.	Jun. 20
Jul. 20.	Sacramento, Cal.	Jul. 4
Jul. 21.	Albany, N. Y. Adv. June 27 to July 4.	Jun. 27
Jul. 21.	Nevada, Mo.	Jul. 4
July 22.	Daniellsville, Ga.	Jun. 6
July 22.	Jackson, Wyo. Adv. June 20 to July. 4.	Jun. 20
Jul. 27.	Marysville, O.	Jul. 4
July 30.	Boise, Idaho Adv. July 4.	July 4
Aug. 3.	Whitesburg, Ky.	Jun. 27
Aug. 6.	Charlotte, N. Y. Adv. June 13, 20.	Jun. 13

PAVING AND ROADS.

Bids Close.		See Eng. Record.
Jul. 6.	Albany, N. Y. Adv. June 20 to July 4.	Jun. 20
July 7.	Indiana	Jun. 13
July 7.	Frederick, Md. Adv. Jun. 13, 27.	Jun. 13
July 7.	Burlington, Ky.	Jun. 13
Jul. 7.	Pullman, Wash.	Jun. 20
Jul. 7.	Indiana	Jun. 20
July 7.	Dayton, O.	Jun. 27
Jul. 7.	New Brighton, S. I., N. Y.	Jun. 27
Jul. 7.	Indiana	Jun. 27
Jul. 7.	New Ulm, Minn.	Jun. 27
Jul. 7.	Grove City, Pa.	Jul. 4
Jul. 7.	New Haven, Conn.	Jul. 4
Jul. 7.	Toronto, Ont.	Jul. 4
Jul. 7.	Columbus, O.	Jul. 4
Jul. 7.	Indiana	Jul. 4
Jul. 7.	Boston, Mass.	Jul. 4
Jul. 7.	Ohio	Jul. 4
July 8.	Nogales, Ariz.	Jun. 27
Jul. 8.	Illinois	Jun. 27
Jul. 8.	Indiana	Jun. 27
Jul. 8.	Brooklyn, N. Y.	Jul. 4
Jul. 8.	Cleveland, O.	Jul. 4
Jul. 8.	Des Moines, Ia.	Jul 4
Jul. 9.	Madison, O.	Jun. 20
Jul. 9.	Dayton, O.	Jun. 20
Jul. 9.	Indiana	Jun. 20
Jul. 9.	Rockford, Ill. Adv. Jul. 4.	Jul. 4
Jul. 9.	Indiana	Jul. 4
Jul. 9.	(2 Prop.), Poughkeepsie, N. Y. Adv. Jul. 4.	Jul. 4
July 9.	Welland, Ont.	July 4
Jul. 10.	Tampa, Fla.	Jun. 20
July 10.	Akron, O.	Jun. 27
July 10.	Cincinnati, O.	Jun. 27
Jul. 10.	Hazard, Ky.	Jun. 27
Jul. 10.	Okolona, Miss.	Jul. 4
July 11.	Marinette, Wis.	Jun. 27
Jul. 11.	Charleroi, Pa.	Jul. 4
Jul. 11.	Ivanhoe, Minn.	Jul. 4
Jul. 11.	Denver, Colo.	Jul. 4
July 13.	Haynesville, Ala.	Jun. 27
July 13.	Road Machinery, Laurel, Miss.	Jun. 27
Jul. 13.	Worthington, Minn.	Jun. 27
Jul. 13.	New Brunswick, N. J.	Jul. 4
Jul. 13.	Newton, Miss.	Jul. 4
Jul. 13.	Logan, Utah	Jul. 4
July 13.	Pomona, Cal.	July 4
Jul. 14.	Bowling Green, O.	Jun. 20
Jul. 14.	Baltimore, Md. Adv. Jul. 4.	Jul. 4
Jul. 14.	Seattle, Wash.	Jul. 4
Jul. 14.	Lehi, Utah	Jul. 4
Jul. 14.	Connecticut	Jul. 4
Jul. 14.	Hammond, La.	Jul. 4
Jul. 14.	Columbus, O.	Jul. 4
Jul. 15.	Danville, O.	Jun. 20
July 15.	Cameron, Tex.	Jun. 27
July 16.	Madison, Wis.	Jun. 27
Jul. 15.	Ithaca, N. Y.	Jul. 4
Jul. 15.	Lorain, O.	Jul. 4
Jul. 16.	Pioneer, O.	Jul. 4
July 17.	Cincinnati, O.	Jun. 27
Jul. 17.	Watertown, Wis. Adv. Jul. 4.	Jul. 4
Jul. 19.	Jacksonburg, W. Va.	Jul. 4
Jul. 20.	Seattle, Wash.	Jul. 4
July 21.	Decatur, Ala.	Jun. 27
Jul. 21.	Pennsylvania	Jul. 4
July 22.	Gary, Ind.	Jun. 27
Jul. 22.	Pittsburgh, Pa.	Jul. 4
Jul. 22.	Perrysburg, O.	Jul. 4
July 22.	Pottsville, Pa. Adv. July 4.	July 4
Jul. 23.	Columbus, O.	Jul. 4
Jul. 24.	Edon, O.	Jul. 4
Jul. 29.	Indiana	Jun. 20
Jul. 29.	La Rue, O.	Jul. 4

HYDRAULIC CONSTRUCTION AND RIVER IMPROVEMENTS.

Bids Close.		See Eng. Record.
July 6.	Repairing Breakwater, Chicago, Ill. Adv. June 13 to July 4.	Jun. 13
July 7.	State Canal Work, Albany, N. Y.	Jun. 13
July 7.	Levee, New Orleans, La.	Jun. 27
July 7.	Ditch, Slayton, Minn.	Jun. 27
Jul. 7.	Dredging, Boston, Mass.	Jul. 4
Jul. 8.	Ditch, Bemidji, Minn.	Jun. 27
Jul. 10.	Steel Sheet Piling, Etc., Wilmington, N. C. Adv. Jun. 20 to Jul. 4.	Jun. 20
Jul. 10.	River and Land Borings, New York, N. Y. Adv. Jul. 4.	Jul. 4
Jul. 11.	Drains, Boone, Ia.	Jul. 4
Jul. 14.	Ditch, Shapokee, Minn.	Jun. 20
Jul. 14.	Dredging, Ottawa, Ont.	Jul. 4
Jul. 14.	Breakwater, Dennis, Mass. Adv. Jul. 4.	Jul. 4
Jul. 15.	**Competition for Harbor Exten., Helsingburg, Sweden Adv. Jan. 24.**	**Jan. 24**
July 15.	Levee, Shreveport, La.	Jun. 27
July 15.	Dam, Etc., Gilbertsville, N. Y. Adv. July 4.	July 4
Jul. 17.	Foundation at Dam Sites, Nashville, Tenn. Adv. July 20 to July 4.	Jun. 20
July 20.	Piers, Philadelphia, Pa. Adv. Jun. 20, 27.	Jun. 20
Jul. 20.	Dredging, New Orleans, La. Adv. Jul. 4.	Jul. 4
Jul. 22.	Wharf, San Diego, Cal.	Jun. 20
July 22.	Pipe, Malta, Mont. Adv. June 27 to July 4.	Jun. 27
July 24.	Levee, Pekin, Ill. Adv. July 4.	July 4
July 27.	Quay Wall, Victoria, B. C.	Jun. 13
July 27.	Lock Machinery, St. Paul, Minn. Adv. June 27 to July 4.	Jun. 27
Jul. 30.	Irrigation, Denver, Colo. Adv. Jul. 4.	Jul. 4
Aug. 4.	Sluice and Regulator Gates, Great Falls, Mont. Adv. Jul. 4.	Jul. 4
Aug. 6.	Excavating Machinery, St. Paul, Minn. Adv. June 27 to July 4.	Jun. 27
———	Drain, Ft. Dodge, Ia. Adv. Jun. 27. Jul. 4.	Jun. 27

POWER PLANTS, GAS AND ELECTRICITY.

Bids Close.		See Eng. Record.
July 8.	Easton, Md.	Jun. 13
Jul. 8.	New Brighton, S. I., N. Y.	Jul. 4
Jul. 11.	Portsmouth, N. H.	Jun. 20
July 13.	Tarentum, Pa. Adv. Jun. 20, 27.	Jun. 20
July 14.	Phoenix, Ariz. Adv. Jun. 13 to 27.	Jun. 13
Jul. 14.	Phoenix, Ariz. Adv. June 6 to 27.	Jun. 6

PUBLIC BUILDINGS AND SCHOOLS.

Bids Close.		See Eng. Record.
Jul. 7.	Canton, O.	Jun. 20
July 7.	Palmerston, Ont.	Jun. 20
July 7.	Sacramento, Cal.	Jun. 27
Jul. 7.	Coldwater, Mich.	Jun. 27
Jul. 7.	Tampa, Fla.	Jul. 4
Jul. 7.	Miami, Fla.	Jul. 4
Jul. 7.	Milton, Pa.	Jul. 4
Jul. 7.	Detroit, Mich.	Jul. 4
July 8.	Baltimore, Md.	Jun. 13
Jul. 8.	Crawfordsville, Ind.	Jun. 20
Jul. 8.	Williamsburg, Ia.	Jun. 20
Jul. 8.	Pekin, Ill. Adv. Jun. 20, 27.	Jun. 20
July 8.	Springfield, O.	Jun. 20
July 8.	Columbus, Ga.	Jun. 27
July 8.	Burford, Ont.	Jun. 27
July 8.	Greenville, N. C.	Jun. 27
Jul. 8.	Muscatine, Ia.	Jun. 27
Jul. 8.	Charleston, S. C.	Jul. 4
Jul. 9.	Jersey City, N. J.	Jun. 20
July 9.	Buffalo, N. Y.	Jun. 27
Jul. 9.	Howard, R. I.	Jun. 27
Jul. 9.	Swainsboro, Ga.	Jul. 4
Jul. 9.	Ephriam, Utah	Jul. 4
July 9.	Washington, D. C.	July 4
Jul. 10.	Idaho Falls, Idaho	Jun. 6
Jul. 10.	Orange, N. J.	Jun. 6
July 10.	Madison, S. D.	Jun. 27
July 10.	Hudson, N. Y. Adv. June 27 to July 4.	Jun. 27
Jul. 10.	Whitesburg, Ky.	Jun. 27
Jul. 10.	Garner, Ia.	Jun. 27
Jul. 10.	Leeds, Mo.	Jul. 4
Jul. 10.	Buffalo. N. Y.	Jul. 4
Jul. 10.	McLean, Neb.	Jul. 4
Jul. 10.	Greeley, Colo.	Jul. 4
July 11.	Pensacola, Fla.	Jun. 13
Jul. 11.	Brewster, Minn.	Jul. 4
July 13.	Toronto, Ont.	Jun. 27
Jul. 13.	Washington, D. C.	Jul. 4
Jul. 13.	Ottawa, Ont.	Jul. 4
Jul. 13.	Miami, Fla.	Jul. 4
Jul. 13.	School, New York, N. Y.	Jul. 4
July 13.	Ottawa, Ont.	July 4
Jul. 14.	Covington, Va.	Jun. 20
July 14.	New York, N. Y. Adv. Jun. 20, 27.	Jun. 20
Jul. 14.	Owatonna, Minn.	Jul. 4
Jul. 14.	Fairbury, Ill.	Jul. 4
Jul. 14.	Kendallville, Ind.	Jul. 4
Jul. 15.	Welch, W. Va.	Jun. 20
July 15.	Ozark, Mo.	Jun. 27
Jul. 15.	Craig, Neb.	Jul. 4
Jul. 15.	Joliet, Ill.	Jul. 4
Jul. 15.	Waterford, N. Y.	Jul. 4
Jul. 15.	Mobridge, S. D.	Jul. 4
Jul. 15.	Ottawa, Ont.	Jul. 4
Jul. 15.	New Hazelton, B. C.	Jul. 4
Jul. 16.	Delavan, Wis.	Jun. 20
Jul. 16.	Cedar Rapids, Ia.	Jul. 4
Jul. 17.	St. Louis, Mo.	Jul. 4
July 18.	Santa Anita, Cal.	Jun. 27
Jul. 18.	Lancaster, O.	Jul. 4
Jul. 18.	East Youngstown, O.	Jul. 4
Jul. 18.	Kent, O.	Jul. 4
Jul. 18.	Lancaster, O.	Jul. 4
Jul. 20.	Bozeman, Mont. Adv. May 30, June 6.	May 30
July 20.	Goodwell, Okla.	Jun. 20
Jul. 20.	South Bartonville, Ill.	Jul. 4
Jul. 20.	Quincy, Ill.	Jul. 4
Jul. 20.	Lorain, O.	Jul. 4
July 20.	Durham, Ont.	July 4
Jul. 21.	Jennings, La.	Jun. 20
July 21.	Ironton, O.	Jun. 27
Jul. 21.	Prince Rupert, B. C.	Jul. 4
Jul. 21.	Leavenworth, Kan.	Jul. 4
Jul. 21.	Detroit, Mich.	Jul. 4
July 22.	Patton, Cal.	Jun. 27
Jul. 25.	Urbana, Ill.	Jul. 4
Jul. 27.	Flandreau, S. D.	Jul. 4
Jul. 27.	St. Bernard, O.	Jul. 4
July 29.	Garden City, Kan. Adv. June 20, 27.	Jun. 20
July 30.	Cookeville, Tenn.	Jun. 27
July 31.	Louisville, Ky. Adv. July 4.	July 4
Aug. 1.	Chicago, Ill.	Jun. 27
Aug. 3.	Three Rivers, Mich.	Jun. 27
Aug. 5.	Vancouver, B. C.	Jul. 4
Aug. 6.	Gary, Ind.	Jun. 27
Aug. 15.	Pearl City, T. H.	Jun. 27

PRIVATE BUILDINGS.

Bids Close.		See Eng. Record.
Jul. 8.	Sheboygan, Wis.	Jul. 4
Jul. 9.	Whitesburg, Ky.	Jun. 27
Jul. 15.	Seattle, Wash.	Jul. 4
Jul. 20.	New Ulm, Minn.	Jul. 4
Jul. 23.	Kankakee, Ill.	Jul. 4
Jul. 29.	Alliance, Neb.	Jul. 4

MISCELLANEOUS.

Bids Close.		See Eng. Record.
Jul. 7.	Park improvements, Corpus Christi, Tex.	Jun. 20
July 7.	Cement, Cincinnati, O.	Jun. 27
Jul. 8.	Repairs to Mechanical Equipment in U. S. Bldgs., Washington, D. C.	Jun. 6
July 9.	Fences, Etc., Buffalo, N. Y.	Jun. 27
July 10.	Towers, San Juan, P. R.	May 30
Jul. 10.	Metal Book Stacks and Cases. Albany, N. Y. Adv. May 30, June 6.	May 30
Jul. 10.	El. Ry. Wk., New York, N. Y. Adv. Jul. 4.	Jul. 4
Jul. 12.	Cables. Winnipeg, Man.	May 30
Jul. 13.	Culverts, Shakopee, Minn.	May 23
July 13.	Cement, Leavenworth, Kan.	Jun. 27
Jul. 13.	Culverts, Newton, Miss.	Jul. 4
Jul. 13.	Retain. Wall, Cincinnati, O.	Jul. 4
July 14.	Fence, etc., Cincinnati, O.	Jun. 13
July 14.	Garbage Reduction Plant, Akron. O. Adv. June 27 to July 4.	Jun. 27
Jul. 14.	U. S. Govt. Supplies, Washington, D. C.	Jun. 27
Jul. 14.	Street Cleaning, Toronto, Ont.	Jul. 4
July 15.	R. R. Wk., Australia	May 16
July 18.	Elevators, Guthrie, Okla. Adv. June 27.	Jun. 27
Jul. 21.	U. S. Govt. Supplies, Washington, D. C.	Jun. 27
Jul. 21.	Wire and Tubes, Springfield, Mass.	Jul. 4
Jul. 21.	Museum Cases, Albany, N. Y. Adv. Jul. 4.	Jul. 4
July 24.	Electric Ry., New York, N. Y. Adv. July 4.	July 4
Jul. 23.	El. Ry. Wk., Brooklyn, N. Y. Adv. Jul. 4.	Jul. 4
July 29.	Coal Pockets, Ft. Williams, Me.	July 4
Jul. 30.	Wire and Cable, New Orleans, La.	Jun. 6
———	R.R. Work, Calgary, Alta. Adv. June 27 to July 4.	Jun. 27

★Items marked thus give the names of parties awarded contracts.